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THE HEAD OF DEGENERATES.

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In reviewing the symptoms of degeneracy offered by the head, I shall consider the skull, face, hard and soft palates, and teeth only, prefacing this delineation by a few remarks on what degeneracy means and what is foreign to it.

In pathology degeneration means the substitution of a tissue by some other regarded as less highly organized, less complex in structure, of inferior physiological rank, or less suited for the performance of the original function. The same definition may apply equally well in human ontogeny, where we can regard a normal man as possessing a certain number of units of strength capable of supplying or exerting a certain number of units of work or force, varying of course according to the environment, education and fixity of purpose of the individual. It would be obviously unfair to compare a professional man or a brain-worker, whose units of work are intuitively manifold more than a hand-worker, and declare the latter a degenerate, because his force and energy as measured by the world's standard are not as productive as the former. The questions of money standard and time-worth are foreign to the laws of degeneracy and are not to be considered in any way. The degenerate must be considered solely and alone upon the physical, mental and moral stigmata which brand him as an abnormal or atypical man, and prevent him from exerting himself to the highest limit commensurate with his skill and development.

The Skull.—The skull has been the subject of anthropological research for many years, each investigator endeavoring to formulate

certain laws which shall be useful in distinguishing racial characteristics or in aiding the criminologist and expert in deciding upon the degree of responsibility or irresponsibility of the indicted or suspected transgressor. As yet their labors have not borne the desired results, as cranial deformities and dissimilarities are present in races, tribes, and even in members of the same families.

The normal head, so-called, is judged by the ratio which the length of the head bears to the width, when viewed from above. The antero-posterior is to the bi-parietal diameter as 100 is to x is the formula for determining the cephalic index. All length-breadth indices below 78 are considered dolichocephalic; 78 to 80, mesocephalic, and above 80, brachycephalic. All indices between 70 and 90 may be considered physiological variations. The physiological variations dependent upon age, and the artificial deformities as practiced by the Polynesians and the Indians of North and South America, must not be included among the irregular types.

The dolichocephalic or long-headed races are the English, Irish, Scandinavians and Negroes, with an index of 73; Arabs, 74; Chinese, 76. The brachycephalic or broad-headed are the Germans, Russians and Turks, with an index of 81, while the mesocephalic or mediums are the American Indians, Hollanders and Parisians, with an index of 79.

Virchow has given us a very complete classification of the deformities of the skull, based upon the observation that premature synostosis of a suture produces a shortness of the diameter, perpendicular on the direction of the obliterated suture; the bone stops growing prematurely where the synostosis has occurred, whereas the non-affected borders continue growing. Virchow's classification is as follows: I.—Simple macrocephalus. 1. Hydrocephalus. 2. Keph-alones without hydrocephalus (or simply enlargement of the skull).

II.—Simple microcephalus. The average circumference of an adult male skull is 52 centimeters, female, 50 cm., the physiological variations ranging from 48.5 cm. to 57.4 cm. The macrocephalic skull, which in the large majority of cases is due to hydrocephalus, may be the result of a tubercular meningitis, or of obstruction of the venae Galeni, or, as is usually the case, of fetal development and often hereditary.

Microcephalus is due to early ossification of the sutures and fontanelles, and is frequently productive of idiocy, epilepsy, cretinism

and other degenerative neuroses. The causes of early ossification may be rachitis, or insufficient nutrition of the cranial bones from early obliteration of the nutrient vessels, or lack of development of the bony tissue from inhibition due to inflammatory changes in the sutures.

True microcephaly demands a bilateral and symmetrical lack of development of the entire skull. If the vertex of the skull is undeveloped whilst the basal bones attain their proper size, the Aztec type of microcephaly results. Another rather rare form of microcephaly results when the small skull with thick bones, and synostosis at the vertex, has the basal bones remaining cartilaginous; the petrous bone and the ethmoid are larger than normal, while the cerebellar fossa is unusually large; the cerebellum, pons and spinal cord develop to the detriment of the cerebrum, which remains illy developed. Griesenger compares these idiots to birds, with their long-pointed and beaked nose and small, low and short heads.

The degenerative tendency of microcephalics is well illustrated in a case published by me in the *Journal of Nervous and Mental Disease*, July, 1892. The head measurements of this woman, possessing limited intelligence, age 27 years, 4 feet 11 inches in height and of 110 pounds weight, were as follows: Circumference, 48 cm.; occipito-frontal diameter, 14 cm.; bitemporal diameter, 13 cm.; biparietal diameter, 13 cm.; occipito-mental diameter, 20½ cm.; suboccipito bregmatic diameter, 16 cm. Married in 1884, she had given birth to five children, all of whom were microcephalic at birth. During dentition three of them became macrocephalic, undoubtedly hydrocephalic, dying of meningitis, and two died of convulsions, the head remaining microcephalic.

III.—Dolichocephalus. 1. Upper middle synostosis. Simple dolichocephalus (or long head), the result of synostosis of the sagittal suture. Sphenocephalus (or wedge-shaped head) is due to synostosis of the sagittal suture with compensatory growth in the region of the large fontanelle. 2. Inferior lateral synostosis. Leptocephalus (or narrow head), the result of synostosis of the frontal and sphenoid bones. Klinocephalus, synostosis of the parietal and sphenoid bones.

IV.—Brachycephalus. 1. Posterior synostosis. Paracephalus (or thick-skulled), the result of synostosis of the parietal bones with the occipital bones. Oxycephalus (or steeple head), produced by

synostosis of the parietal bones with the occipital and temporal bones, with compensatory growth of the region of the anterior fontanelle. 2. Upper anterior and lateral synostosis. *Platycephalus* (or flat head), produced by extensive synostosis of the frontal and parietal bones. *Trochocephalus* (or round head), the result of partial synostosis of the frontal and parietal bones in the middle of the half of the coronal suture. *Plagiocephalus* (twisted head), or oblique deformity of the head, due to the unilateral synostosis of the frontal and parietal bones. 3. Inferior median synostosis. Simple *brachycephalus* (or broad head), the result of early synostosis of the basal and sphenoid bones.

Besides these cranial deformities there is still another common type recognized by many observers as the *trigonocephalus* (or triangle-shaped head), caused by the premature union of the frontal suture. Characteristic of this deformity is the very narrow forehead corresponding to the vertex of a triangle, while the diverging sides of the cranium, terminating in a wide, flat occiput, correspond to the base of the triangle. An interesting example of this kind came under my notice about two years ago in a paranoiac, who shot down the center of a supposed conspiracy which, as he thought, was directed against his mother. Besides other marks of degeneracy the cranium possessed the well-marked characteristics of *trigonocephaly*.

In addition to these well-known types of cranial deformity there are other stigmata which occur occasionally in the crania of degenerates, consisting in abnormally high or low development of certain arcs or diameters, prominent among these being the empirical greatest height of the head or the distance between the basion and vertex of the skull, the bifrontal arc, and the biparietal arc.

The proportion of the length of the cerebral chamber to the basi-cranial axis (as 100) may rise to 270 in the higher and sink to 230 in the lower races. (Huxley.) Expressed in centimeters, this height or basi-cranial axis averages 13.3 in men, 12.3 in women, and the physiological variation is from 11.5 to 15 cm.

The naso-bregmatic or frontal arc, or the line from the root of the nose to the bregma, expressing a high, or low, or receding forehead, averages 12.5 cm. in men, 12 in women, with a physiological variation between 10.9 and 14.9 cm.

The bregmato-lambdoid or parietal arc, corresponding to the

length of the sagittal suture, averages 12.5 cm. in men, 12 in women, with a physiological variation between 9.1 and 14.4 cm. (Peterson.)

Minimal measurements of the frontal arc are oftener found in the insane and criminals; the parietal arc is also said to be often shorter in the insane, defective and delinquent classes and in epileptics. In these classes, however, maximal excesses also often occur. (Dana.) Of 127 measurements made by Zucker-Kundler upon insane subjects, 103 showed a typical variation, or more than 81 per cent. Wilson, from measurements of the heads of 464 criminals, finds that the anterior portions are poorly developed and that the cranial deficiency is associated with real physical deterioration. Forty per cent are invalids, and a still larger proportion of these are professional thieves. Asymmetry, though often existing in normal subjects, is much more constant and pronounced in the criminal and is frequently a characteristic mark of his family and descendants.

Skulls that are below the normal type in volume belong to abnormal individuals, especially the insane and criminals. A marked deficiency in any portion of the skull leads to the conclusion that the part of the brain subjacent to it is imperfectly developed. Voisin says that the proper exercise of the intellectual faculties is impossible with a head whose circumference measures from 28 to 33 cm. or less, and in which the naso-occipital arc measures from 210 to 213 cm. or less.

Since lack of symmetry exists between the two sides of the body, so, too, in the skull of normally developed individuals we find variations in the size of the two halves of the cranium. As a rule the left side of the head presides over the right side of the body; and as the right side of the body is usually more fully developed than the left, and muscular strength is generally in excess on that side, it would seem to follow that the left side of the head should present the largest contour. This proves to be the case, the left side being larger than the right in the proportion of three to one. As Brown-Séquard has demonstrated, the left lobe of the brain comes into greater use in its control of the right side of the body than does the right lobe in its control of the left side. Unequal muscular and cerebral development bears a relation also.

From a careful study and analysis of the cranial deformities and

aberrations, it is generally admitted: 1. That no special type or types of cranial deformity or irregularity have as yet been found pathognomonic of any class or classes of degenerates. 2. That wide variations do occur in the normally developed and well-balanced individuals. 3. But it must also be admitted that along with other physical, mental and moral stigmata, these cranial variations are significant and important and are of the greatest value to the anthropologist and criminologist.

The Face.—The face as a whole has been regarded for centuries as portraying the underlying deep-seated nature of the individual, and in every-day life is the mirror which reveals the sagacity, honesty and good-will of its bearer. Its expressions have been as carefully studied as have been the emotions which give rise to them, but as yet no scientific study has been made of them.

As marks of degeneration we do consider asymmetries in the two sides of the face; unequal innervation of the facial muscles of the two sides; squints and tics of the facial muscles; a depression over the glabella, as observed in epileptics, due to over-action of the corrugators; the Lemurian hypophysis or abnormal development of the masticatory muscles, as described by Albrecht. Not to be included in these anomalies is the affection known as Hemiatrophia facialis, or atrophy of one-half of the face, right or left side, due to some lesion, probably of the trigeminus.

Of greater significance and importance is the slope of the face or the cranio-facial angle, which in the different races of mankind and in man degenerate presents wide variations. A line drawn from the anterior extremity of the premaxilla to the anterior extremity of the basi-cranial axis may be taken to represent the facial axis, and the angle included between these two is the cranio-facial angle. It varies with the extent to which the face lies in front of or below the anterior end of the cranium, from less than 90° to 120° . (Huxley.) Francotte gives the average for European races as 62° to 80° . When it is great the face is prognathous; medium, opisthognathous; small, orthognathous. Every normal face presents this subnasal prognathism, but when extreme prognathism or orthognathism is met with the condition is pathological. Excessive prognathism is found among criminals and microcephalics. Lombroso in an examination of 40 criminals found only three whose facial angle was 80° to 81° , while in the other 37 it ranged from 68° to 74° . In 60

criminals quoted by Francotte, the facial angle of the various offenders was as follows:

	Maximum.	Minimum.	Medium.
Poisoners	80	75	76.2
Offenders	78	75	76
Incendiaries	79	71	75
Robbers	78	72	74.9
Infanticides	79	70	74.9
Assassins	77	71	74.3
Murderers	81	69	72.9
Violators	73	72.5	72.7
Prostitutes	73	70	71

A secondary condition is the form of the alveolar portion of the upper jaw, which so far as it is vertical tends towards orthognathism, but so far as it is oblique and produced tends to prognathism.

The mental prominence in the higher races as a rule projects beyond the line of the vertical alveolar margin of the mandible. In the lower races and in many degenerates it is greatly inclined forwards, the lower teeth projecting beyond the upper, making the inferior maxillary angle very obtuse. This condition is due to defective development of the posterior parts of the skull, breadth of the parietal and temporal bones, and aplasia of the superior or hyperplasia of the inferior maxillary bones.

Gurrieri found from a comparison of normal crania and jaws with those of the insane and criminals, that the weight of the normal cranium is less than that of the insane, and the latter less than that of the criminal, and that the mandible follows to a slightly more pronounced degree the same law.

Hard Palate.—The deformities of the hard palate have been carefully studied by Peterson, whose observations in this direction extended over a period of eleven years, and comprised examinations on upwards of one thousand persons (100 criminals, 600 idiots, and 500 neuropaths of other kinds.) On account of the frequent mention of the Gothic palate, he had adopted an architectural nomenclature in the following classification which he offered. Pathological Palates.—“(a) Palate with Gothic arch; (b) palate with horseshoe arch; (c) the dome-shaped palate; (d) the flat-roofed palate; (e) the hip-roofed palate; (f) the asymmetrical palate, and (g) the torus palatinus. The seven varieties are to be

looked upon merely as types. Each type presents variations and combinations with other forms. Among the flat-roofed palates would be included all such as are nearly horizontal in outline, as well as those with inclined roof sides but flattened tables. In the hip-roofed palate there is a marked pitch of the palate roof in front and behind. It is usual to find asymmetry of the face and skull in cases with an asymmetrical palate. The torus palatinus (Latin *torus*, swelling) was first mentioned by Chassignac as a medio-palantine exostosis. It is a projecting ridge or swelling along the palatine suture, sometimes in its whole length. It is always congenital, and varies considerably in both shape and size. But two or three cleft palates were found among the many idiots examined, and as a number of such palates had been found in subjects who were far from being degenerated, it was not thought proper to include the cleft palate among the well-marked stigmata of degeneration."

The arch formed by the teeth or alveolar margin is in the most orthognathous races wide and evenly rounded, while in the most prognathous it is prolonged and its sides are nearly parallel. (Huxley.) Asymmetrical, saddle-shaped, triangular-shaped arches are also often observed in the degenerate.

Soft Palate.—The uvula has been the subject of careful study of late, especially by Dana, who examined it in regard to shape, size and innervation in 108 insane, 60 neuropathic and 155 sane, a total of 323 in all. He found that in the insane the total number of deformities of all kinds was 53, the most common peculiarity being a twist to one side, generally to the left. The proportion was much greater in the degenerative forms of insanity, showing that just in proportion as the physical stigmata of degeneracy were more marked did the proportion of deformed uvulæ increase. Dana concludes "that the existence of a uvula twisted to one side and not innervated forms an anatomical and physiological stigma of degeneration. The twist or bend implies an unequal development of nerve supply of the two sides, and the degenerate uvula is one that has an unequal and defective nerve supply. Touch the throats of degenerates and in more than half of them the azygos muscle makes no response.

The Teeth.—The abnormalities of the teeth and of dentition observable among the degenerates are briefly as follows: 1. The notched teeth of congenital syphilis or Hutchinson's teeth, particu-

larly well marked in the upper central incisors. 2. Persistence of the temporary teeth, especially the cuspids. 3. Abnormal length of the cuspids. 4. Abnormalities in the slope of the teeth. 5. Abnormalities and irregularities in the position of the teeth. 6. Rachitic teeth. 7. The teeth of extreme prognathous races and individuals are much larger than normal; the roots of the premolars and molars are more distinct, and the last molars not so small relatively to the others. This is observed especially in the lower races, notably the Australians.

APPROXIMAL FILLINGS IN BICUSPIDS AND MOLARS.

BY GEO. H. GREEN, D.D.S., DANVILLE, KY. READ BEFORE THE KENTUCKY STATE DENTAL ASSOCIATION, MAY 14-16, 1901.

The only apology I have to offer for writing on so hackneyed a subject is the fact that the principles which I shall offer are almost universally disregarded by operators. I wish to discuss the outline and contour of approximal filling in bicuspids and molars, relative to the restoration and preservation of the interproximal space and adjacent tissues. The illustrations which I have prepared are patterned to a considerable extent after those of Dr. C. N. Johnson, which appeared in an article entitled "A Few Considerations in Filling Teeth."

Every observant dentist must have noticed that the margins of well filled cavities on the occluding surfaces of teeth are seldom subject to the recurrence of decay, owing to the cleansing effect of mastication, which does not permit of the retention of food for a sufficient length of time to permit of the formation of tooth-destroying products. The same immunity is observed at the buccal margins of approximal fillings, when those margins extend sufficiently beyond the point of tooth contact to allow of proper cleansing with the brush.

It is a common cause of chagrin to dentists to find such fillings as the last described falling after a few years along the lingual or cervical margins, which are concealed by the approximation of the adjoining tooth, especially as the coronal and buccal aspects show a lasting piece of work. When this happens the inartistic process of patching is necessary to replace the carious area, or the entire filling may have to be removed and a new one inserted.

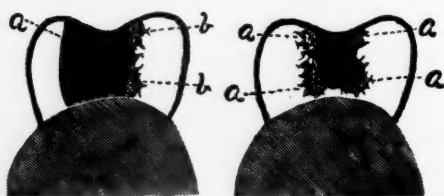
In Fig. 1 we have the approximal face of a molar filled as above.

From a mechanical standpoint the filling may have been perfect when complete. We see the buccal margin (a) clean and intact, but the lingual margin fails where it is impossible to thoroughly cleanse it because of the contact of the adjoining tooth. Food has lodged and disintegrated, microorganisms have found a fertile field of operation, the tooth structure has become impaired, and decay has occurred along the entire wall of the former cavity, with the result as seen (b—b).

In Fig. 2 we have one of the most common forms of compound approximal fillings, the conditions on both sides and at the cervical margin of which are identical with the lingual margin of Fig. 1.

Fig 1

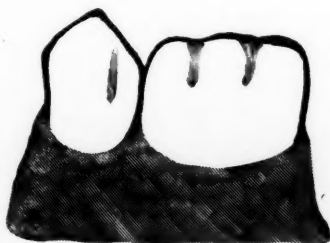
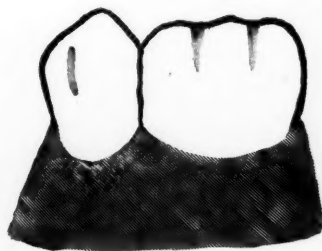
Fig 2



The question naturally arises—why is one margin of the filling free from caries, and how can we insert a filling and insure immunity to all the margins? Just as naturally the answer comes—extend the margins so as to bring them sufficiently without the area of contact that free and easy cleansing may be possible. What, however, concerning the cervical margin, as it in no case can be reached with the brush and few of our patients can be trained to use the floss silk with regularity? I should suggest that the cavity be extended to the gum margin or even slightly below its free edge, and at this point be broadened to such a degree that all parts of the filling not exposed to the action of natural and artificial cleansing shall be protected by a covering of gum tissue. This is commonly known to possess a conservative power, probably because of the antiseptic character of the secretions of its superficial glands. The proof of this lies in the fact that caries seldom occurs below the gum margin, unless it has its origin above the line and extends be-

low it. In this event the destructive process will continue without limit, as the gum exudation is not germicidal.

Let us now consider the interproximal space and the gum septum. In Fig. 3 we have the buccal view of a bicuspid and molar, on the approximal surfaces of which no decay has taken place. Below the point of contact we see the V-shaped interproximal space almost filled with gum tissue, which is the normal condition. The gum arches up toward the apex of the interproximal V, leaving a slight space between the crest of the arch and the point of tooth contact. During the process of mastication any food which may pass below the grinding surface slips down the smooth rounded surface of the

Fig 3*Fig 4*

gum festoon, the apex being protected from the packing of food by the close approximating contour of both teeth at the point of contact. Nothing passes into the small space below excepting a few shreds of meat or other fibrous substance, and these are usually dragged away on one side or the other by the passing of fresh food or the tongue. After the meal anything remaining can be easily dislodged. Thus under normal conditions the gum tissue filling the interproximal space is amply protected by nature.

However, as shown in Fig. 4, when the approximal surfaces have been extensively attacked by caries, and the natural contour of the teeth has been lost, the latter being deprived of their natural support, move together, as they invariably do in a full arch, and the interproximal space is partially or entirely obliterated. As decay progresses the cervical margins of the cavities in both teeth come nearer together, and gradually these approximating margins extend

rootwise, and we find the gum septum continually crowded down until the buccal and lingual aspects assume the positions shown in Fig. 4.

Fig 5 is a view of the approximal surface of a molar, showing the normal arch of the gum septum. In Fig. 6 we have the same tooth with an extensive area of decay extending below the gum margin, with the result that the normal curve has been reversed, and instead of an arch we have a depression. Usually inflammation is present to a greater or less degree.

What method shall we now pursue to restore the teeth and soft tissues to a healthy condition? If a thin file should be passed be-

Fig 5



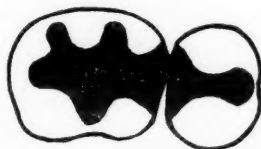
Fig 6



tween the teeth, the frail margins chiseled away, and fillings inserted, two broad, flat surfaces would be the result. Such fillings would not protect the soft tissue beneath, their shape would invite the passage of food down between them, and continued mastication would mean continued packing and pressure until the pain became unendurable. In less extreme cases these unsatisfactory fillings would fail along the cervical margins after a short time. The logical method is to restore the teeth and gums as nearly as possible to their original shape and condition. To do this the first step is to force the teeth apart until they stand in their former normal positions, and then the original contour must be restored, a cross section of which is shown in Fig. 7. Many operators advocate filling both cavities and the intervening space with a solid mass, leaving no space between. I have never found this advisable except where there is a tendency, because of there being no tooth beyond one or the other so treated, to further separation, and even this can usu-

ally be overcome by extending the occlusal surfaces of the fillings so that they are almost continuous, and leave no V-shaped space above into which the food can wedge. Where the contour has been judiciously fashioned, the approximal surfaces properly smoothed and polished, and all rough or overhanging edges at the cervical margin removed—except where there is atrophy or disease of the gums—the gum septum will in a short time almost if not entirely again fill the original space which has been recreated by the separation and contour. Thus, to sum up the whole paper in one sentence, with the proper contour and finish, and with sufficient extending of the cavity to bring the lateral margins within easy reach of the brush, and the cervical margins below the free edge of the gum septum, the original conditions will be nearly restored, and the adjacent tooth structure will be peculiarly free from the recurrent decay.

Fig 7



Since writing this paper I have read the *May Items*, which is almost entirely given up to a discussion of one of the points which I brought out. Dr. Ottolengui attacks the position taken by Black and Johnson in extending approximal cavities rootwise until they reach below the free margin of the gum. Eight prominent men write papers on the subject, four for and four against Black's and Johnson's view. I may be prejudiced, but it seems to me that the side defending the method that I hold offers by far the better argument. Since reading this symposium I have not altered my paper, but I realize after reading the argument on one point that I have probably laid myself liable to criticism by failing to qualify one statement. I do not advocate extending all approximal cavities rootwise until the gum margin is passed, regardless of distance or condition, for there must of course be exceptions to all rules. Let me quote from Dr. Johnson—"But in those cases where there has

been an extensive and permanent recession of the gum, so that there is an appreciable distance between the decayed cavity and the gum margin, it would be folly to attempt to cut through sound tissue to the extent of two or three millimeters for the purpose of carrying the filling under the remaining gum. It is a question of judgment with this, as with other matters calling for discrimination in different cases, but the principle of protection to the gingival margin of the filling should never be ignored."

Discussion. *Dr. C. G. Edwards*, Louisville: Non-cohesive gold has given away to cohesive for the restoration of contour. In these cases the preparation of the gingival margin is important, as we find it gives way even where there is no decay, and not only that, but the alveolar process and bony septum are absorbed. The recurrence of decay is not always due to a lack of preparation of the border of the cavity.

Dr. Max N. Eble, Louisville: The truth of the substance of this paper will certainly be admitted by all. Excessive contour is important, and our patients must be impressed with the fact that it is necessary to separate the teeth in order to properly restore the contour. A filling such as Fig. 2 is worth twice as much as an ordinary one. When we cut beyond the decay more contour must be supplied, but many operators do not follow out this idea simply because it is not remunerative.

Dr. B. Oscar Doyle, Louisville: I make the restoration with alloy and finish with gold, thus saving considerable expense.

Dr. J. W. Clark, Louisville: I fill these cavities with a combination of amalgam and gold, using the former at the cervical border and building up the upper two-thirds with gold.

Dr. H. B. Tileston, Louisville: Where the cavity is prepared as Dr. Green has indicated, and where the filling is well put in, caries is not likely to recur no matter what material is used. In the extension of cavity margins for prevention there are certain limitations, such as sensitiveness of dentin, nervousness of patient, and perhaps lack of time, but I do not believe we are justified in doing anything less than what we know to be right simply because the patient cannot afford to pay the fee to which we feel entitled. Malpractice would hardly be justified on the plea that the patient could not pay the fee demanded.

Dr. Henry Pirtle, Louisville: I remember a case where I re-

stored the contour and the patient afterwards complained that the tooth felt too tight. The mouth was not overly crowded, and in preparing the cavity I did not separate the teeth, but restored the contour with a metal matrix at one sitting. I was careful to finish the margins under the gum and to bring out the convex surface. Upon the patient's continued complaint I ran a file in and cut off part of the filling, which relieved the trouble.

Dr. O. G. Wilson, Franklin, Ky.: In filling bicuspid and molars I use a matrix, and then with a small spoon excavator scrape the edge of the cavity and bevel the margin outward. I do not believe that gold is the only agent for saving teeth, as I have found "Fellowship" alloy a very good filling material. The margins of a cavity prepared thus are filled with this alloy with exaggerated contour, and after the filling is in place the margins may be nicely finished.

POPULAR DENTAL EDUCATION.

BY H. VAN ANTWERP, D.D.S., MT. STERLING, KY READ BEFORE THE
KENTUCKY STATE DENTAL ASSOCIATION, MAY 14-16, 1901.

In casting about for a subject I have chosen one which has always been of great interest to me. One which is old, too, to this Association, for I remember when a boy seeing the cards of "Instruction to Parents" issued by this body, and generally distributed by its members in their daily practice. Believing the subject to have been somewhat neglected of late, I shall attempt to present to you a few thoughts, with the hope that they may prove stimulating and of possible profit. Just here I should like to touch upon a rather perverted view of this subject that is often presented. Whether the proposition be labelled—"A Dentist's Relation to his Patients," "Our Profession and the Laity," "Our Relation to Medicine and M.D.'s," "The Public's Opinion of Us," or what not, properly paraphrased the question really reads—"How May We Better Hypnotize the Public, that We May Occupy a More Exalted Position in Their Estimation and More Easily Extract the Desired Rocks from Their More Willing Pockets." We have heard much fruitless discussion and effort of this sort, and pondered on how far wide of the mark it all was and what a woeful waste of gray matter and foolscap. As dentists—not stomatologists—we should be too busy with the demands and responsibilities of each day to worry over any prestige

or preferment that any other profession may *seem* to possess over our own. I regard our profession as a specialty of medicine, rather highly developed along artistic and technical lines, and with more or less of a mechanical basis; one that in its nature and practice needs no defense nor apology. True, the medical profession has much that is of help to us, but we, reciprocally, more that would be of help to the general practitioner or surgeon, if he had it. We so often see the suggestion that the dentist ought to be a graduate of medicine; but of how much greater benefit to the M.D. and his patients would be a course for him in some good dental college; and nowhere else could the surgeon acquire so perfectly that delicacy of touch and exact skill so necessary to his success.

As dentists we rarely, except in the bosoms of our own families, are present at the ushering in of new members of the clan Adam or the passing away of the old; we seldom in our professional capacity touch or are concerned in the great physical crises and emergencies that involve the lives of those about us; rarely weighing vitality (aided or handicapped by our skill) against disease, and having a whole community hanging on our decision. We infrequently conduct a case more serious than a fractured jaw or an abscessed antrum, and as a profession we may perhaps not deserve to be taken so seriously as our medical friends. But as *men* we are on the same footing, and it is our privilege to earn and retain, if we will, the wholesale respect and even veneration of those about us, and thus by our character and personality strengthen and build up our profession in the esteem of our fellow men. Why then waste time in discussing the position of dentistry in the eyes of the public as compared with medicine. Had we not better devote all our energies to filling our place here in a thoroughly capable and conscientious manner, thinking not of what others think of us, but only to know that our lives are clean and upright, and that our professional knowledge and skill are as great as is individually possible with us. We should remember that "We can be valued only as we make ourselves valuable"; and that if we would aspire to eminent success and the esteem of our fellowmen we must be actuated by the spirit of Addison's lines—

"Tis not in mortals to command success—

We'll do more, Sempronius, we'll deserve it."

But to the subject proper. That the public stand in need of

dental education scarcely needs stating; that they are wholly to blame for their surprising state of ignorance is hardly true; that, to some extent at least, there are others than the unregenerate public lacking in a proper knowledge of oral hygiene is true. I have heard a prominent dentist of this state relate how he asks his little daughter as she comes to breakfast if she has cleaned her teeth, and receiving a negative reply says to her—"No clean teeth, no breakfast," and the incident and implied practice of brushing the teeth before breakfast rather than after supper, went unchallenged. I am reminded in this connection of a verse in the Scriptures: "If judgment begin in the congregation of the righteous, where shall the ungodly stand?"

So general is the need of oral regeneration, and so rare the perfect set of teeth in a perfect environment, that we may say the obvious results of ignorance and neglect are universally present. As conscientious dentists our office should be not only to repair but to instruct as well; to teach those measures which when put in practice shall insure good teeth—proper care and a continuing state of health and usefulness. In a sense we hold the oral welfare of the public in trust, and we are not faithful to that trust if we are content to do nothing towards discharging it. I hold, therefore, that as individual dentists, and as an Association we should take advanced ground in this matter and do something definite toward alleviating present conditions. In this as in every other good work the greater part of the effort expended must be lost, but some permanent benefit can be accomplished, and it is this modicum of good which must encourage us.

I shall not go into the subject matter of the desired instruction, since either the food-and-development division, or the oral hygiene branch of it, would require separate papers for adequate treatment; but will suggest some avenues through which we can effectively reach and benefit generations present and to come. Naturally it is through the mother that we must hope to accomplish the greatest good. She it is who provides or looks after the food supply of the infant; who during the formative period of childhood suggests or prepares the diet of the child; and who must early and late look after the habits of that child, and by persuasion, coercion and example teach it the proper care and use of its teeth. Then if she shall have done her work intelligently and well, and the habit of

systematic cleanliness shall have become fixed, the child need never consult the dentist, except to show to him such an ideal condition as he rarely has the good fortune to see at present. But the question is—how to reach the mother. As a girl she has been under our care and we have patiently drilled her in caring for her teeth, appealing to whatever incentive would operate most powerfully to keep her up to the mark. But later she gets married, generally speaking, and then we cannot presume to take the liberty or the necessary time to go into the questions of nutrition and development that affect the teeth (and no less the general health and growth) of the child which usually comes along. Now would it not be a good plan to keep an eye on the Birth Notices, and whenever you see mention of a new one in your flock, make a memorandum of it and a few weeks later send the mother a copy of Mrs. W. M. J.'s "Letters of a Mother to a Mother," or some specially prepared booklet, possibly briefer than the one mentioned, but gotten up in attractive shape with a striking title, and containing definite and practical information about food values and the relation of food to development; the importance of *early* attention to the subjects suggested and the hopelessness of such attention if put off until after the sixth or eighth year. Such a pamphlet would strongly appeal to the mother's interest in the welfare of the child and accomplish a vast deal of good.

As another means of reaching the mothers, and incidentally others, there is the press. The news syndicates issue articles of doubtful composition and questionable advice as a matter of common interest and probably have to pay something for them. Why not furnish them with authoritative articles ably edited and free of cost. They would be glad to get them, and the circulation of such articles would be enormous. Again, the articles in the household magazines are sometimes good so far as they go, but could be greatly improved on and at the same time made more interesting. It is largely through this medium and the "woman's page" in the daily and weekly newspapers that we could reach the mothers of the country with a few timely hints about their babies and youngsters—what they should feed them and when and why; and then other chapters on the cause and prevention of dental decay. I find our local papers are always glad to print articles of this kind, and the writing of them would be most excellent practice for the mind

of the dentist in formulating facts and theories, and a splendid preparation for association work, so the benefit from this practice would not accrue to the public alone.

The two avenues already suggested are the most important, because they offer opportunity for dietetic and developmental instruction to those who can secure the early benefits of proper observance of nature's demands to those in their charge. After a child is old enough to go to a dentist the structural die is cast and the best we can do is to repair the breaks and seek to improve the environment. This leads us to the third suggestion, a plan too late for the structural rehabilitation of the teeth erupted and nonerupted, but which may yet accomplish much towards their preservation and usefulness. This plan is one which we have worked to some extent and which really suggested the title of the paper. It is the employment for the purpose in hand of the public and private schools, or in other words, the regular educational channels.

To begin with, the school text-books should have at least one chapter devoted to the teeth and their care, and that chapter should be edited by a practical dentist who knows something about his subject, with an interesting quiz compend attached, and an attractive illustration or two illuminating the text. It is astonishing how even the less interesting things we studied at school linger in our minds; and a chapter of this kind would be something definite and tangible that the child or student could apply to his own case, or failing in this application, would involuntarily store the lesson away to be called into action by some subsequent event—perhaps the extraction of a hopeless and highly inflamed first molar. There are also the County Teachers' Institutes and the Teachers' Reading Circles. Here a dentist and a piece of chalk can reach the teaching principal of every school in his county. He may illustrate his talk or not as his talent indicates, but he can put on the blackboard the main points as he goes along, and much condensed information will be passed on through the teacher's note-book in this way. In his later visits to those schools he can very quickly tell if the pupils have received any part of the instructions given to the teachers.

Last of all we come to the school-room itself. How our minds go back to the very pleasant breaks in the monotonous routine of school life, when Prof. or Dr. So-and-So came to talk to us about

the Aryan races of Asia; the Pyramids of Egypt; the Cave Dwellers; the Mound Builders, or other anthropological and paleolithic syllogisms. What a treat it was! and to this day we remember how he looked (and may the Lord forgive some of us for emulating his example) and some of the things he said. Now, what if a wideawake dentist had dropped in on us, with a smile on his face (dentists always smile) and a "jolly" for our teacher, and a pretty little story about a wonderful lake surrounded by glistening white cliffs, in between which were the richest little farms and truck patches imaginable; and how the voyagers in this lake discovered these garden spots and settled and started flourishing colonies in them, and how they multiplied so rapidly that in a very short time they began to be crowded, and then they began to bore into the cliffs. But just as they were getting down to work there came a great rope, as it were, in between the cliffs where they dwelt, and the most of them were dragged out into the lake; then again a mighty broom swept down and around the cliffs and carried many more of them off; and finally there was a great storm on the lake and the water was changed, so that nothing could live in it, and all the inhabitants thereof were killed. And suppose that while the story progressed the colored crayons were traveling here and there over the blackboard, and just as the tale ended, we had there pictured before us what we at once recognized as a beautiful set of teeth, clean, white and regular. Do you think we should ever forget the story or the lesson, which would be emphasized by a full explanation of the cause of decay, the meaning and use of antiseptics, and a practical demonstration of the use of floss silk, tooth-brush and mouth wash.

In addition to this instruction it is always well to explain the evil effects of mouth-breathing, which is much more generally practiced than currently supposed, also thumb-sucking.

So far as reaching large numbers of the rising generation with effective instruction under the most favorable circumstances on the care of the mouth and teeth, the school room is the best plan I know of. The conditions are all in our favor; the interest manifested is positively inspiring, and the results are most happy.

Discussion. *Dr. W. E. Grant, Louisville:* The paper is a very good one and I have no criticism to offer. Several dental societies in this vicinity have taken up this matter at various times and all manner of schemes have been tried, from articles in the Sunday

newspapers to lectures for the school children and examinations of their teeth. A committee of dentists has also conferred with the school board, and pamphlets have been distributed to the teachers. The plan of having a number of dentists visit the schools and give talks, did not succeed, for many men thought their fellow practitioners would accuse them of self-advertisement. Lately the college of which I am dean has furnished the principals of the schools with little slips, setting forth the fact that the teeth should be cared for, and that if any of the children are in need of dental attention they should visit their family dentist. Where they cannot afford this the principal is to fill out the ticket and send the children with it to the college, where the necessary work will be done without any charge whatever. This plan has been in practice about two months, and we believe it has done much good and we do not feel that the college has been imposed upon. I heartily agree with the essayist that the proper field for this dental missionary work is the public schools, and the teachers as well as the children should be impressed with the idea of the value of the teeth.

Dr. L. P. Haskell, Chicago: Dr. Frank Alfort, a prominent oculist of Minneapolis, some time ago inaugurated a system whereby the eyes of the children in the public schools of that city could be examined by the teachers by the use of letters. If it was found that any eyes were defective, a note was sent to the parents advising them to take the children to an oculist. The results were very flattering, and later the same method was established in Chicago. It might be well for the dentists to try something like this.

Dr. J. H. Baldwin, Louisville: I believe that the mother is the one to be interested, for if she is not mindful of her children's welfare I am sure the teacher will not be.

Dr. C. W. McGuir, Munfordville, Ky.: I believe the proper method of dental education is through the text-book, as impressions made on the child are generally communicated to the mother.

Dr. J. S. Cassidy, Covington, Ky.: I think the best method of reaching the public, the teachers and the children, is by individual contact, rather than collectively.

Dr. A. Wilkes Smith, Richmond, Ky.: I have noticed that the care of the body or anything along the line of physiology is a very popular study with almost all children, so I endorse the plan of using text-books.

CONTINUOUS GUM DENTURES.

By L. P. HASKELL, D.D.S., CHICAGO. READ BEFORE THE KENTUCKY STATE DENTAL ASSOCIATION, MAY 14-16, 1901.

It seems that there are not nearly so many plates put in as in years past, though plate work is an important item, as you all know. I will call your attention to a symposium in the January *Items* about vacuum cavities. Some writers were of the opinion that same were a necessity; some that they were not, while others were entirely indifferent. John B. Snow claimed that the dentures were held in place by adhesion and not by suction. If the plate is properly constructed you can get all the adhesion necessary, and if the plate fits I am always satisfied, even if it does not adhere quickly. Every dentist knows that the palate is hard, but there are a multitude who say that the middle portion of the upper part of the jaw never changes. The alveolar ridge gives way extensively, often to the ruination of the jaw, owing to the undue absorption of the alveolar process, and it is only a question of time when the plate rests on this hard part.

The one change that I made in this model was to put in what I call a "relief" over the hard center, extending over the margin of the jaw and into the margin of the plate. I have my patients wear the plate back as far as possible, allowing it to extend beyond the porcelain fully a quarter of an inch. Dentists sometimes say, "You have a vacuum there." In this case there is no defined edge. In other words, the plate will adhere just as well without the relief, provided, of course, that it does not rest upon the hard center. One of the writers in that symposium said there was no difference between the vacuum cavity and the relief. The vacuum cavity rests on the hard center and in a few months it will rock, while the relief allows the plate to rest on the alveolar ridge, avoiding this difficulty. I make no use of air chambers, but use the relief in every case.

Here is a model of the upper jaw where the alveolar ridge is all gone. A portion of the bone has been removed, owing to a necrosis. The patient had had six plates made of rubber but none suited him. I made him one of aluminum which fitted perfectly. I always succeed better with a swedged plate than with one of rubber. After swedging the plate I tried it in, pressing it up with my fingers, and then could not remove it without instruments. A year or two

afterwards, as he was going away, he asked me for a duplicate to use in case of accident, stating that he never knew he was wearing a plate.

Here are two specimens almost alike. The first represents eighty-five per cent and the second two per cent of mouths. This plate fits every portion of the palate.

This is a model of a plate made for a campaign speaker. I made him a rubber plate at first which was not satisfactory. Then I made him one of gold. In three months he told me that he had made speeches every day without the slightest difficulty. The relief in this case is absolutely essential, and to a greater extent than in the other case, because the plate rests on the hard center, causing it to rock and also to irritate. Here is my own plate. There is no upper ridge. You see there is a very high ridge in my palate but it is very symmetrical.

In making a successful fit in a plate for the upper jaw I deem essential these things. In the first place, a plaster impression. When I take same I know what I have every time. I know that if I get a good impression good results will follow. The next thing is relief in the palate. Third, a Babbitt metal die which was introduced into this country by me. There is a great variety of formulas for Babbitt metal, and in order to cheapen it they substitute lead for tin. The kind which I gave to the manufacturers contains one part of copper, two of antimony, and eight of tin. I use it because it has all of the essential qualities of metal. It is non-shrinking, hard enough not to batter, and has a much lower fusing point than zinc. I consider this absolutely necessary in securing a fit in an upper denture. You cannot pour lead without great difficulty upon Babbitt metal because it melts it. I reduce the fusing point of the counter-die by adding five parts of lead and one of tin. Don't pour it on until it thickens, and then it won't adhere.

There is another point in regard to shaping the plate. It should be worn high, but not enough so to irritate, making it wide and trimming it down. It should also be worn higher over the cuspid teeth, and it is a rare case where you cannot make it so. We see many plates for an upper denture no higher in one place than in another, which causes depression and plumping out under the nose. A plate worn high can be retained in the mouth with much more ease because it adheres better. Recently I made a new upper set

and applied plumpers. Notice the size, the height here, and the fullness over the cuspid teeth.

The next thing is in regard to the artificial denture. I attribute the greater majority of failures to bad articulation. I never allow the six anterior teeth to come together at all. The lower teeth come forward in the majority of cases, thereby very easily displacing the teeth because of the leverage. Never allow the six anterior teeth to meet. If the teeth are long when they come together something is bound to give way. Use the thick articulating carbon paper. Tell the patient to close rapidly, which will give you correct articulation. You can thus see on which side the black is most prominent and grind off. Then bring the pressure on the bicuspid and first molars.

In regard to continuous gum dentures. It remains to-day the only perfect denture ever put in the mouth, and it is the strongest and most durable. Everything depends upon the putting together of the denture. The strength of a continuous gum set is not in the porcelain but in the metal. There are so many dentists who are trying the experiment of using a very thin plate—31 and 32 gauge. I never use anything less than 28 gauge, and reinforce the plate across the heel. Then I reinforce the edge of the plate about one-fourth of an inch wide, which elevates that part and leaves no projection there, as well as strengthens the plate. The inner edge is turned out a little, as it protects the porcelain. Don't use a three-cornered nor half-round but a flat wire. I roll out a round wire in the mill and then file off one edge. You must have a backing on your teeth. So many simply solder the pins of the teeth to the plate. I prefer backing these teeth up with a strip of platinum and soldering the backing to the plate with pure gold. We all know such a set is the most natural looking, and it is perfectly clean and healthy to all of the tissues of the mouth. Be careful in the articulation of the teeth not to have a strain on the plate, or it will cause the porcelain to crack. Sometimes the teeth are worn on an inclined plane. In such cases I either grind the tooth to a flat surface or else crown it. I do not recommend porcelain for partial cases to any extent. A few years ago in the Chicago Dental Society, a prominent dentist was much admired for his gum work but he said that he could not repair it. A pupil of mine remarked that he thought the gentleman was mistaken, as he had seen me repair a number of these

sets. I am just as sure of good results as if I were repairing a rubber plate.

Now a few words in regard to the lower denture, which causes the dentist more trouble. The upper denture covers a broad surface, while the lower sets on a ridgeless jaw with scarcely anything to keep the plate from sliding back and forth. The greatest trouble is because the impression taken extends down under the tongue. What is the result? The glands and tissues rise way up above the margin of the plate, and if the plate is wide on the lingual side, it lifts up and down. In my own case it is rounded up and is not lifted by the tongue.

I noticed this morning one of the students repairing a lower rubber plate—he was just flasking it. In response to my question of how he was going to do it, he gave the usual method, which was by dove-tail, cutting, grooves and holes. This is entirely unnecessary. Cut out all the old rubber and pack in new against a clean scraped surface with a hot spatula.

Some dentists have raised the question in years past as to whether aluminum is a good metal to use, alleging that it is affected by the secretions of the mouth. I say that it is not. The specks of iron in the aluminum formerly used rust out, leaving little pits in the surface, but aluminum as made by electrolysis is free from contamination. It is certainly preferable to rubber. In fact, any metal is preferable to rubber. In using aluminum you should use a good thickness—say 22 gauge, or even 20 is better. Unless you use it thick the strain of mastication will bend it. In regard to the blowpipe, I find that a person solders better with a mouth blowpipe, as he can more easily control the flame. The blowpipe so universally used now is simply a jeweler's blowpipe, and is not fit for use. A dentist needs a larger one, and it will not tire the muscles so readily.

OPERATIVE PROPHYLAXIS OF THE ORAL CAVITY.

BY F. MESSERSCHMITT, D.D.S., ROCHESTER. READ BEFORE THE ROCHESTER DENTAL SOCIETY, April 9, 1901.

Cleaning the teeth is one of the most important as well as most neglected operations in dentistry. More teeth are lost from allowing tartar to collect and remain upon them than from any other cause, but with the steady advancement in dentistry, and the improved instruments furnished us by the manufacturers, I think

most members of the profession are making strenuous efforts to treat these conditions, and many teeth are saved that would have been considered worthless in former years. Still, many patients present in whose mouths other practitioners have performed very extensive and artistic work, but have paid no attention whatever to the cleaning of the teeth.

Why this very important operation is totally neglected by such men is hard to comprehend. Is it a lack of early training, or are other operations more remunerative? But what becomes of the teeth?

A set fee is an uncertain remuneration, as the dentist is not able to judge beforehand in regard to the amount of work necessary to complete an operation. It is true that some people retain their dental organs throughout life without giving them any care, but that does not justify the dentist in slighting this work when patients place themselves in his hands, expecting him to save their teeth.

More attention should be paid this subject in the colleges, so that the students will realize the importance of thoroughness in these operations. Children should be taught from the kindergarten up how to properly clean their teeth, for if the habit is once acquired it will in most instances be continued throughout life. Pupils appearing in an unkempt condition at school are sent home by their instructor; why not send them home if they neglect to clean their teeth?

The instruments should be so constructed that they may be easily applied to every part of every tooth. Considerable manipulative ability, however, is necessary to perform the operation in a skillful manner, and this skill can be acquired only by practice. Several sittings are sometimes necessary for the completion of the operation, especially when the tartar has accumulated in very large quantities. The first appointment I make with all patients is for the purpose of cleaning their teeth, completing the operation at a subsequent visit when necessary. I then have a clean mouth to work in and can make a more careful examination of the teeth, also observe if the patient is doing his duty towards keeping the teeth in a perfect condition. I remove all the tartar from one tooth before passing to the next one, and the mouth is then syringed out with tepid water containing a pleasant deodorant. In the meantime the instruments are wiped off perfectly clean by the assistant, so as to look present-

able before being used again, a feature the patient is not slow to observe. In cases of pyorrhea the instruments are cleaned and sterilized before being used a second time, as I fail to see how this condition is improved by passing an unclean instrument from one tooth to another. After all the tartar has been removed the teeth are polished with fine pumice carried on rubber wheels, disks and brush wheels, dental fibre is then drawn back and forth between the teeth to cleanse the approximal surfaces, the mouth is sprayed out with three per cent solution of pyrozone, and instructions are given in the use of the brush, floss silk and quill toothpick, and a tooth powder is prescribed. The patient is then dismissed and instructed to rinse the mouth out with a weak solution of sodium chlorid on reaching home, to allay the inflammation.

Discussion. *Dr. H. H. Tompkins*, Utica, N. Y.: In opening the discussion of this paper I am reminded of a member of one of our dental societies who used to make the following remarks about four-fifths of the papers which were read: "I am very much pleased to be at this meeting, and I have been greatly interested in the paper presented, as I consider it a most excellent paper. I heartily approve of it, and know of nothing of particular interest which I could add to it. Mr. President, I move a vote of thanks be extended to the essayist for his admirable paper." I can do no better than to apply these remarks to Dr. Messerschmitt's paper and emphasize them. The subject is one which is neglected by a great many dentists, who in other respects may be excellent operators. Why this is so is a problem. In the first place, many of the older practitioners never realized in their early days what a powerful factor cleanliness was in the preservation of the teeth, and so do not pay much attention to it now. In the second place, the quacks bring this work into disrepute by offering to clean the teeth for nothing. Of course their cleansing is of the most superficial nature and increases the irritation rather than otherwise. This brings up the important matter of fees, for it has become a popular idea that cleaning the teeth is not much of a job. People trust our judgment in ordinary dental operations, and we must educate them to understand the importance and necessity of a perfectly clean mouth. When this is done they will be willing to pay us for the work. The public should be trained to realize that they do not pay us to make jewelry boxes of their mouths, but for the good resulting from

wisely directed skill and labor. If there is any one thing which taxes my strength and patience it is thoroughly cleaning a set of teeth, especially in those aggravated cases where the tartar is deep seated. On general principles I believe a pull instrument is preferable to a push one, because it brings the loosened tartar to the surface. If allowed to remain this would not reattach itself, but might be a continued source of irritation. Push instruments are much more apt to wound the gum, and the patient is always in fear that they will slip. Some years ago I cleaned a lower cuspid with push instruments, and after considerable work supposed the tooth was clean and that the debris was all removed. Some days later a fistulous opening appeared over the root of that tooth, and it was undoubtedly caused by the irritation of the loosened but remaining tartar. Amalgam fillings should be carefully polished. I have left one unpolished in my own mouth, so as to remind me how disagreeable it can be. Where there is an accumulation of soft tartar on the buccal surfaces of the molars, it is positive proof that the patient is not thoroughly masticating his food. The teeth of the human race are deteriorating because we insist on having nothing but soft food and refuse anything which requires thorough mastication. Dentists should not get in the habit of preaching or lecturing while at work, but suggestions can often be made to good advantage. We owe much of our present enviable position to continued education of the public, and herein lies the remedy for a condition of things which we now deplore.

Dr. B. F. Lasalle, Rochester: During my early practice a man came to me and wanted his teeth cleaned. He asked if I cleaned teeth as all dentists did, and upon my replying that I presumed so, he said that he wanted me to clean only one or two a day unless I could do more than that thoroughly. This taught me a lasting lesson.

Dr. B. G. Saunders, Rochester: In this as in other things we must start with the children, and if they can be trained to care for and think of their teeth there is hope for their future. When I find a child that will not keep its teeth clean I have it come to my office two or three times a week for inspection, thorough cleaning with the tooth brush, and advice. This usually starts the habit.

Dr. J. H. Beebe, Rochester: When patients ask me how much I charge to fill a tooth, I reply by asking them how much they

would charge to dig a hole, or tell them the story of the old darkey who was explaining why he charged one dollar for whitewashing—"Two bits for de kalcimine, two-bits for w'ar and t'ar on de brush, two-bits for de work, and two-bits for to know how." I do not trust instrumentation alone in cleaning teeth, and always use in addition a one to eight solution of sulphuric acid.

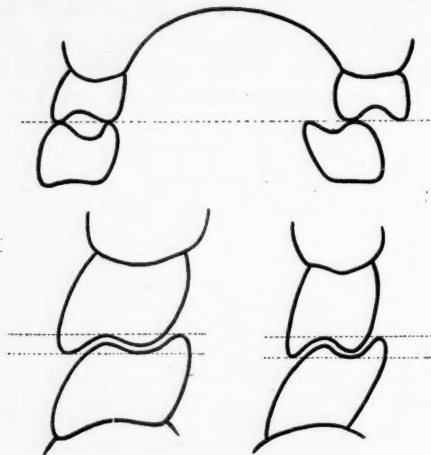
Dr. B. S. Hert, Rochester: Pull instruments are better than push ones, being more effective and less objectionable to the patient, but I do not believe they are necessary for bringing out the particles of loose tartar, as this matter will always work out unaided.

Dr. Messerschmitt: Unless patients are willing to give proper remuneration for cleaning teeth we should not touch them, both for the moral effect and in justice to the teeth. We should impress upon our patients that a little tartar does nearly as much harm as a large amount, and consequently teeth should be thoroughly cleaned every few months.

GLOSSITIS CAUSED BY A LOWER RIGHT MOLAR.—*Dr. Stavisky, Paris*, in a paper read before the Societe d'Odontologie describes the case of a man who came to him for consultation with regard to a highly inflamed condition of the tongue. The family history revealed the presence of the uric acid diathesis among its members. Some time previous to his coming to the office he had consulted a physician, who diagnosed the trouble as a buccal leucoplakia. At that time he complained only of an annoying sensation, no real pain being present. These symptoms lasted one month and then disappeared. The physician again cauterized the affected parts. Three weeks after this treatment the patient complained of severe pain in the tongue. The physician then prescribed some anodyne gargle. The pain decreased for a while, but then returned with greater intensity. From that time the right side of the tongue began to swell, the swelling increasing daily. The patient could not take any solid nourishment, not only on account of the size of the inflamed organ, but also because of the pain brought about by mastication. "The mouth is kept open nearly all the time, and the saliva escapes from it. The right border of the tongue is more inflamed than the left, but as the edema is so considerable there is very little difference between the size of the two halves of the organ." While examining the borders of the tongue a small ulcer was found opposite the lower right molar. "The lingual half of the masticating surface of this tooth was filled with cement, slightly disintegrated at the lingual border. This border was very thin, and it was only by touching it with the finger that one could realize its sharpness. Without any doubt this glossitis had been caused by this sharp edge." Either of two modes of treatment could have been followed: First, to polish the sharp edge and treat the tooth; second, extraction. *Dr. Stavisky* followed the second course because of the difficulty of introducing a polishing wheel on account of the pronounced swelling. He prescribed a mouth-wash, and ten days afterward all traces of the glossitis had entirely disappeared.—*Cosmos*.

Digests.

OCCLUSION OF ARTIFICIAL TEETH. By Eugene Pettit, D.D.S., Philadelphia. Read before the Minnesota State Dental Association. The late Dr. Bonwill considered his "method of articulating teeth" the greatest discovery of his life; yet this method has not been generally accepted. I heard him say many years ago that "he had then been more than thirty years drumming it into the dental profession and they would not take hold of it." Personally, I am particularly indebted to Dr. Bonwill for his ideas on this

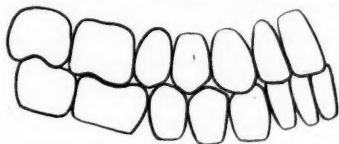


Articulation according to Dr. Bonwill.

subject, for it was while attempting to put them into practice that I discovered what I believe to be a more practical method. While Dr. Bonwill's scheme is very interesting from a theoretical point of view, the fact of its not being more generally accepted by the profession (a profession, too, most keenly on the alert for advanced methods) proves most conclusively to my mind its impracticability.

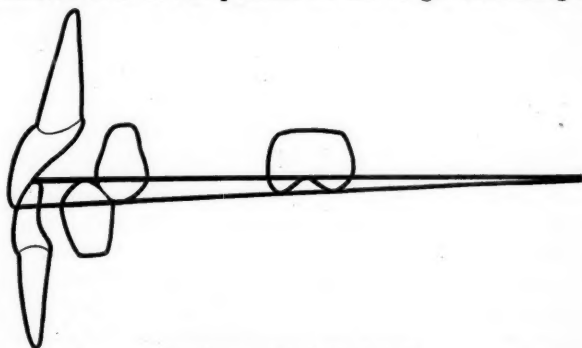
Before submitting to you this method of articulation, in justice to myself I ought to state that it has given entire satisfaction to my patients; and I firmly believe that when it is properly understood by the profession they will unhesitatingly pronounce it an important aid to mastication. I consider that any method or principle that

promises to aid us even in the smallest degree to masticate our food with artificial teeth should not be allowed to pass without due consideration and a trial. While I could refer to a number of cases, I do not deem it necessary to mention more than two—both typical cases. Mrs. B. came to me three years ago; she was eighty years old, having worn artificial teeth more than thirty years, but never



Articulation according to Dr. Bonwill.

with comfort. The plates I made her were constructed on this method of occlusion. She volunteered the statement to me that they were the only teeth with which she could satisfactorily masticate her food. Mrs. P., a woman of fifty years, had worn many sets of artificial teeth, but without satisfaction. Her husband, a man of means, believed it was possible for her to get something better;

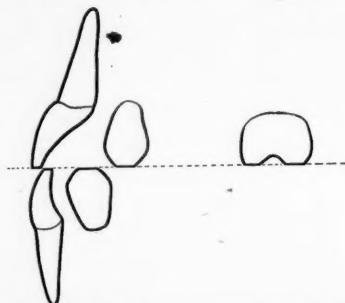


Overbite according to Dr. Bonwill.

and with this idea secured a list of dentists who did their own mechanical work. He called on me, and I explained this method. His wife was highly pleased with the results.

We must bear in mind that, while artificial teeth are not natural teeth, it is of the greatest importance that they should present a natural *appearance*. This much accomplished, their usefulness as masticators becomes paramount. I contend that an artificial denture

is controlled in the mouth only as a mass or a block of carved wood. All interlocking of the cusps, and the overlapping of the incisors, I have found to be decidedly detrimental. It is quite natural for persons wearing artificial teeth to speak of them as being perfectly satisfactory. This is simply because they have learned to manipulate them with some degree of success, not knowing that a still more perfect result can be obtained. The mouth is frequently and correctly referred to as a "mill," and it is as a mill that it should be regarded by every dentist who desires to assist his patients to properly masticate their food; for it is through this grinding process of mastication that digestion truly begins, that food is properly assimilated and man's physical and mental equilibrium established.



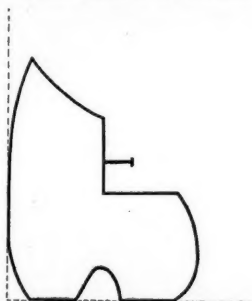
Ground Cusps with no Overbite according to Dr. Pettit.

How can we convert the mouths of our patients into working mills? Simply by avoiding everything that will interfere with the grinding action of the teeth and the natural motions of mastication. This, in my opinion, necessitates doing away with the overlap of the incisor teeth, as well as the interlocking of the posterior teeth, by grinding them to a flat but by no means to a smooth surface. I find that I can do this best by simply holding the cusps against the side of a grindstone and grinding about one-third of the cusps down, setting the upper incisor teeth to project beyond the lower. This will give them the appearance of overlapping.

After the denture is finished, it is placed on the side of a grindstone with a pressure on the incisor teeth; this will grind a sharp cutting edge, and as the lower jaw is pushed forward to cut the food the sharp, angular edge on the buccal surface of the lower teeth will come in contact with the sharp ground edge on the palatine surface

of the upper teeth, and while masticating the food the tilting of the plates will be reduced to the minimum.

I will now give you a few comparative illustrations of the old and what I term a newer method: but before doing so I should like to say a few words about preparing the mouth for the plate. In partial cases where we are obliged to depend entirely upon artificial teeth for a masticating surface, I would always advocate opening the bite until the remaining natural incisors are on a horizontal line, the upper with the lower. After the bite is opened I would consider that all remaining natural teeth, which are not on the same horizontal line already established, a detriment to the full benefit to be obtained and would extract them. When the posterior teeth are moved out of position, even though a portion of one tooth should be

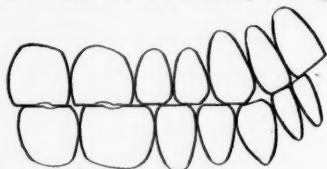


Section of Tooth Ground on Cusps.

on line, I would extract this to restore masticating surface; and also to allow dentures to go into place with the least possible manipulation. I consider the cutting of plates to overcome the difficulty of putting them in place a sacrifice of rigidity. All you cut away in such cases prevents that rigidity which you hope to obtain by holding on to the teeth which are so far removed from the original position.

Dr. Bonwill says "That it should need no argument to convince you that an artificial denture should correspond to the natural one in every respect; as nearly as can be approached." In my opinion an artificial denture should *not* correspond to the natural one except in its appearance. The artificial teeth of to-day, if arranged as intended by the manufacturer, would present a grinding surface so irregular that, while undergoing motions of mastication, the contact with the lower teeth would be reduced to a few high cusps, and the

plates would be thrown from their position by the overlapping of the incisor teeth. To get the benefit of the full masticating surface one would be obliged to chew by simply opening and closing the jaw, in the same manner as a hinge opens and shuts. Artificial teeth are made to-day as they were years ago; notwithstanding the fact that Dr. Bonwill first mentioned his theory in 1858. The grinding surface of the teeth made after Dr. Bonwill's method is too irregular and too smooth for mastication. The grinding surface of the natural teeth is irregular and rough. The grinding surface of teeth made after this method is flat and rough; just as anything controlled as a mass should be for grinding or masticating purposes. If making the teeth flat necessitates the changing of the condyloid process, nature will adjust herself very readily, as is seen by her endeavor to turn incisor teeth into surface grinding teeth by abrasion.

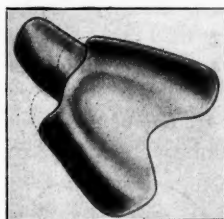


Articulation according to Dr. Pettit.

This method of occlusion does not necessitate so careful a selection of teeth as former methods, yet the best results are obtainable only by the use of appropriate teeth. I suggest deep sulci to make a rough grinding surface, and teeth with a long bite, as they are more agreeable to the tongue. The posterior teeth should be so shaped that the masticating surface is on a right angle with the buccal surface. I think the great majority of cases require that all teeth should be built on this plan. The idea that the buccal surface of the lower teeth must slant in to properly occlude with the upper artificial teeth is erroneous. When taking impressions of the upper jaw, avoid using an impression cup with too high a rim, as it bulges the lip and cheeks and stretches the membrane from the bone. To avoid this I cut away two-thirds of the rim in front, and, after putting the plaster in the mouth, depress the lip all around with the finger, so the plaster will be pressed close to the ridge. This will give a much tighter-fitting plate, one that will better exclude the air.

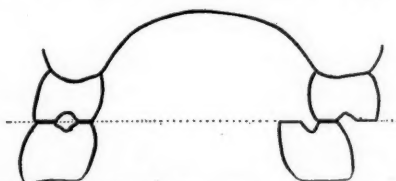
I would like now to call your attention to an extreme but by no

means an exceptional case. I have never seen one where a patient has lost so few teeth, and at the same time has so little use of those remaining. Notwithstanding the fact that there are many molars and bicuspid left in the mouth, the lower incisors are touching the upper gum, and have even gone above the gingival line. This has not been done, however, without considerable damage to the mouth,



Impression Cup cut away.

for it has spread the upper incisor teeth by acting on an incline plane. There has been so much pressure brought to bear on the few remaining antagonizing teeth that it has shortened them by absorption of the bone and process, notwithstanding the incisor teeth are very strong, which is proven by the centrals not separating more than an eighth of an inch, the difference being gained by pushing the lower

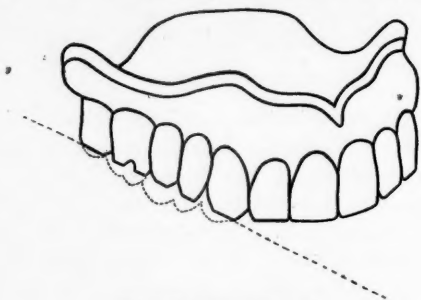


Cross Section, Showing Movement over Ground Cusps.

incisor teeth inside of the arch, and possibly some change in the normal relation of the condyloid process with the glenoid cavity. The patient is under the doctor's care suffering with complicated disorders.

We must meet these difficulties and restore the mouth to a condition which will enable the patient to properly masticate his food. It is plain to be seen that we must open the bite; but how much? To that point where the lower incisor teeth can best reach the upper incisor teeth for cutting. This point establishes the line. (Under-

stand where the incisor teeth are left remaining we can have no overlap.) But in this case we also find the right lower and upper molar antagonize, which prevents the lower incisor teeth reaching the upper. This necessitates the grinding off or the extraction of the upper or lower molar before the line can be established. This brings us to the point where we are obliged to decide whether the case requires bridge work or plates; if bridge work, the lower molar must be devitalized and ground down to use as an abutment; but we will suppose the patient does not wish bridge work. Then the question is, Which teeth shall we extract, if any? Since opening the bite is imperative, there are one or two upper teeth on the left side which will not touch the lower teeth. As we have decided not to

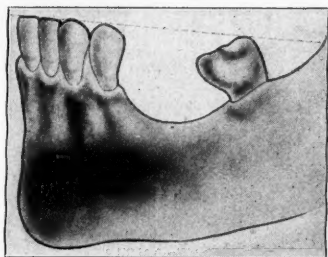


Upper Set—Cusps Ground.

use bridge work, we cannot lengthen these teeth to antagonize by that means; which shall we extract? This is a subject I would like to discuss more at length with any present who may feel an interest in this particular case. I would, however, under such conditions, without reference to this particular case, extract all the natural teeth which would be a detriment to the usefulness of the plates—all that would interfere with the rigidity of the plates, and all that would lessen the masticating surface. I firmly believe that, were I to have all my teeth extracted, and allow sufficient time for absorption to take place, then were to construct plates, using the natural teeth in as near the same relation to the jaws as possible—the plates so constructed would not give me as much satisfaction as if they were made with flat and rough masticating surfaces as above advocated.

When a patient comes to me for artificial teeth, I first prepare

the mouth by extracting all teeth that I consider will be a detriment to the usefulness of the dentures. That will include all teeth that have grown too long through lack of antagonists or from other causes, all teeth that we find overlap the line mentioned, or that do not reach it. By the line, I mean a line drawn from the cutting edge of the incisor teeth straight back. Also extract all teeth that lean over, which leaves only the posterior cusps on the line. Then I thoroughly clean all remaining teeth. I advocate only plaster impressions, and smooth rigid impression cups that cannot be bent; such as German silver or the old-fashioned porcelain tray. In every partial case I always remove the cup from the impression, and therefore regard any roughness of cup, wax, compound, or anything that

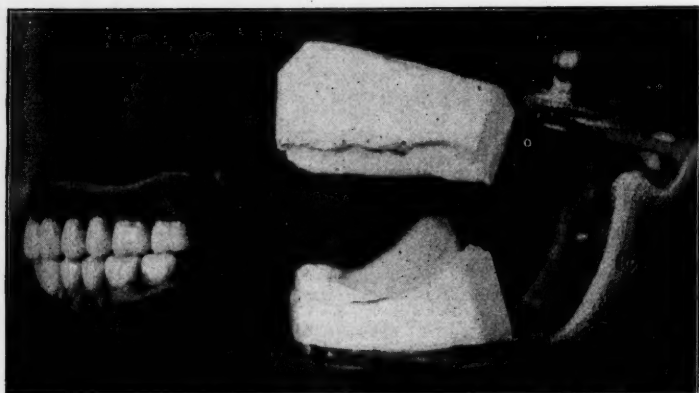


Extract Molar.

will interfere with its easy removal, as a hindrance. Use a quantity of plaster to fill up the irregular spaces between cup and mouth; and do not depend upon bending, filling in with wax, or any material to approximate the general outline of the mouth. Such methods are not only unnecessary but bungling.

After the cup is removed and the plaster is quite hard, break the impression out in pieces; and do not hope to remove an inch of plaster through a seven-eighth's space. After all pieces are removed, I take each piece and allow the force of water from spigot to wash away any crumbs which would interfere with the replacement of sharp fractures. In putting impressions together always use the cup, as it gives relative positions. I always take the bite at the same sitting, and use the mush bite exclusively. It takes only a few minutes, and the casts and base plates are not necessary for its use. I advocate the mush bite for the following reasons: In the

first place it is the most accurate. there is no slipping of the base plates on the mucous membrane. The patient does not have in mind the bringing together correctly the wax covered upper and lower jaw, but on the other hand is told simply to mash the wax. The patient's mind is then on using a certain amount of force, and whether he mash the wax little or much, in the great majority of cases you have an accurate relation between the upper and lower ridge. It also saves time for both patient and operator. The fullness at the time of taking the bite does not have to be considered. I contend that after the length is established and the models out-



lined, the position of the teeth will always be in a certain relation to those outlines. All fullness necessary for expression will depend upon thickness of wax from the neck of tooth to outline of plate, and can best be determined after the teeth are waxed in place. In other words, the position of the teeth is the same whether the rim of the plate is thick or thin. I have the patient mash the wax slowly, then tell him to stop, but don't open. Then I see if the lips will come together when muscles are relaxed. If necessary, have him mash further until the lips just meet. Next mark division line of lips, which answers for length of both upper and lower teeth, also mark center line.

I use silicate of soda very much diluted as a separating medium; and I never use any shellac or varnish. They are not twice in the

same condition and only fill up the interstices. The alcohol preparations are also expensive. I think every one who uses silicate of soda enough to become familiar with it will discontinue the use of all other preparations for this purpose. One great advantage of it is that you are enabled to pour the impression immediately after taking it from the mouth; the impression being wet when it is poured gives more accurate results. In making artificial dentures success lies largely in attention to detail. It is the little things that make a success or a failure. Don't mar the casts. Don't allow sticky wax to come in contact with the casts, as its removal takes some of the plaster with it. Don't rub the cusps of plaster teeth that you are fitting as antagonists, and thereby give yourself unnecessary grinding after the plate is finished. After the models and mush bite are placed together, they are ready to put on any kind of an articulator. The more simple the articulator the better. I then measure the distance from the top of articulator to division line of the lips marked on the wax bite. This establishes the length of both upper and lower teeth. I commence with the central after having all cusps so ground that when laid on a flat surface they will touch.—*Review, Feb., 1902.*

* * *

LESIONS PECULIAR TO PRIMARY DENTITION. By C. E. Bentley, D.D.S., Chicago. Read before the Northern Illinois Dental Society, 1901. The knowledge regarding the lesions peculiar to primary dentition is becoming exact. The day when the family physician used the phenomena of primary dentition as a cloak to hide a blighting ignorance is rapidly passing away. Almost any disease of infants which baffled the unskilled and untutored man of medicine in days past was attributed to "teething," but in the dawning of specialties and their subsequent elaboration the lesions of first dentition are clearly defined and classified. Dentistry has contributed much to this condition of affairs.

Primary dentition is a physiological process, but like another physiological process—utero-gestation—it is one of continuous irritation. Irritation then is the one thing with which we have to contend, and to constantly remember in the management and consideration of the lesions it induces. This irritation occurring in a healthy infant with the normal eruption of the teeth will not, in a great majority of cases, occasion any disturbance worthy of scien-

tific notice. When in an unhealthy child, and the eruption abnormal, lesions more or less grave do occur and with these we shall concern ourselves.

To understand dental irritation presupposes a knowledge of dental evolution. Without the knowledge of the time and character of an erupting tooth, one is as helpless as a ship at sea without its rudder. We also must understand that there are some diseases that retard or accelerate dentition; that many teeth may be in process of eruption at the same time, thereby intensifying the irritation and producing reflex phenomena, all of which can be modified by an intelligent use of the lancet and a thorough knowledge of dental evolution.

The various works on children's diseases make as many classifications incident to first dentition. The following, however, seems to be the most generally accepted and rational: 1. Localized stomatitis. 2. Irritative fever. 3. Diarrhea. 4. Spasms.

I. *Localized Stomatitis*.—The first symptom of this condition is an itching of the parts affected. The child will make this manifest by rubbing its gums upon any hard substance it may carry to its mouth. An excess of saliva will flow as a reflex of this stage of irritation. Inflammation of the gums will soon follow this condition and will extend or be circumscribed in accordance with the constitutional condition of the child and the number of teeth erupting. As for example—If several teeth are erupting on opposite sides of the oral cavity the inflammation is liable to become diffused, but if there is but a single tooth coming and the child is not of an inflammatory cachexia the tumefaction will be circumscribed. Several constitutional conditions are responsible for diffused inflammations in the oral cavity in dental evolution, namely, tuberculosis, syphilis, rachitis and cretinism. These conditions may also induce retarded or accelerated dental evolution and almost always are accompanied with aggravated inflammatory conditions of the oral cavity.

Syphilitic children are prone to early dentition and early decay of the teeth. Nursing children erupt their teeth earlier than those artificially fed. Rickets delay dentition more than any other cause, save cretinism. The delay of dentition in rickets may be from eight to twenty months, while in cretinism teeth may not appear until years after the time of their normal eruption.

The appearance of the gum over an imprisoned tooth is largely indicative of the physical condition of the child and always denotes the use or nonuse of the lancet. The part over a tooth indicates lancing when it has a glistening, tense and inflamed look. Such a gum is "ripe" for lancing, and in case of any of the six anterior teeth, a single incision across the incisal edge of the tooth or teeth is sufficient. In case it be the molars a crucial incision is necessary.

In an unhealthy child the gums present a flaccid, relaxed and soft-looking appearance and all parts look as if any additional irritation would result in a breaking down of same. Lancing in such a child's mouth becomes a serious problem. 1. Because the control of the hemorrhage would be a serious matter. 2. The inflammation already induced by the unerupted tooth or teeth would become intensified, which might produce a more complicated condition than the simple localized stomatitis present. In this condition constitutional rather than local treatment is indicated. This constitutional treatment, it is needless to say, is largely dependent upon the character of the disease with which the child is suffering and truly belongs to the physician's realm, or more properly speaking, to the specialist in children's diseases. Dietetics, hygiene and sanitation are, however, the potent agents to-day in the treatment of such diseases, instead of drugs.

2. *Irritative Fever.*—The characteristic difference between irritative fever and inflammatory fever is that one appears and disappears quickly, the other has a rhythmic rise and fall. In an infant the lancing of an inflamed gum, under which is an imprisoned tooth, in the majority of cases causes a subsidence of the ill effects of irritative fever, while inflammatory fever has a logical course and ending. The symptoms of this malady are muscular excitability, thirst, rapid pulse, rise in temperature, convulsions and sometimes death. When, by exclusion, irritative fever is pronounced to be the cause of the above symptoms, and lancing is indicated, the supplemental treatment is important. Many drugs are recommended and much literature is written for its control. But there is one effective remedy found in *hydrotherapy* that should be placed above all others. The *cold bath* does allay the grave symptoms of this disease and in the writer's opinion should be used to the exclusion of drugs. The rationale of the cold bath is not so much to reduce the temperature,

which it surely does, as to stimulate the nerve centers to greater activity, thereby aiding the pores, glands and secretory organs in their power of elimination of poisonous products.

3. *Diarrhea.* The alimentary tract from mouth to anus is covered with mucous membrane. Hence it is not difficult to see that a localized stomatitis, by reason of its continuity, may extend to any part of the tract. It is in such cases that diarrhea may be induced. The vascular perversion consequent upon an inflamed mucous membrane primarily induced by the irritation caused by imprisoned teeth can and does produce diarrhea in children. This trouble may arise from many causes, not needed to be considered here. All diarrhea in children is not caused by an unerupted tooth, but if upon examination we find the mouth inflamed and the redness extending to the fauces and as far as the eye can detect, we can safely conclude that such diarrhea is caused by irritation incident to dentition. The lancet here is, as in all these cases, the one remedy to apply. If internal medication is indicated the physician should administer such treatment.

4. *Spasms.*—A spasm is an irritation, direct or indirect, of the terminal branches of the spinal cord. That an unerupted tooth in a child may cause a spasm is without doubt true. Dr. Nathaniel Field reported a case where a child had suffered from repeated spasms for a period of over two weeks. It was examined from head to foot for the cause. Consultants were baffled in their attempts to discover the origin. The spasms increased with alarming frequency until they had begun to despair. At the beginning of one of the spasms one doctor noticed a twitching of the muscles of one side of the face, and lifting the lip found an imprisoned cuspid. Upon extraction the spasms ceased and there was no recurrence.

In the intelligent use of the lancet a word might be said. When it is determined that the lancet should be used it should be thoroughly sterilized before so doing. Infection from an unclean lancet has occurred in the lancing of the gums. Too much stress cannot be placed upon this phase of the subject. In the control of hemorrhage, which is often a troublesome factor, the method open to the least objection is the use of hot water. Styptics and coagulants do have their place, but with the exception of adrenalin, which is a compound of suprarenal capsule, hot water is at once the most effective remedy.—*Review, Feb., 1902.*

DENTAL AND OCULAR AFFECTIONS RELATED. By G. H. Bicknell, M.D., Omaha. The intimate nervous connection through the trigeminus of the eyes and teeth fully accounts for the numerous reflex neuroses recorded, and the vascular and lymphatic conditions existing in the head and face render easy of transmission from the alveolar process to the orbit any infectious process occurring therein. The subject then may be classified under two heads: (*a*) Reflex neurosis traversing the fibres of the fifth nerve; (*b*) infections spreading by continuity of tissue. Cases coming under the latter classification are much more serious, and will be considered first.

Infections which travel from a diseased tooth upward to the orbit by continuity of tissue may result simply in an orbital cellulitis, subsiding in a few days without doing harm; but if the infection be more severe, and the pressure be more intense and of longer duration, the vision may be injured, and is at times totally lost. In some cases the infective process extends by various routes into the cranial cavity, giving rise to brain abscess or to a fatal meningitis. Hirsch found in the literature up to 1894 twenty-five cases of orbital abscess caused either by infection following the extraction of teeth or by purulent alveolar periostitis. Hallauer and Dagaliski have since reported similar cases. Many cases have no doubt occurred which have either gone unrecognized or have never been reported.

Infection usually reaches the orbital cavity in one of two ways: (*a*.) It may travel from a diseased tooth under the periosteum on the anterior surface of the superior maxillary bone until it reaches the orbit. Infection by this path is, according to the researches of Gurwitsch, facilitated by the plexus of veins which passes upward under the periosteum in this region, forming an anastomosis with the ophthalmico-facial, this in turn communicating with the inferior and superior ophthalmic veins, thus completing the ophthalmico-facial plexus. (*b*.) The second and much more common method is that in which the antrum of Highmore is first invaded, then the orbit through the thin orbital plate of the superior maxillary bone, or by the vessels passing outward or upward to anastomose with the orbital vessels. Once having gained access to the orbit, infection may easily reach the brain, and it is not surprising that many of these cases die from cerebral complications. The brain may be infected via the optic foramen, the frontal sinus or

ethmoid cells, or the process may pass backward along the ophthalmic vein through the sphenoidal fissure, thus quickly reaching the cavernous sinus.

The gravity of phlegmon of the orbit may be appreciated by considering the sixty-nine cases cited by Hermann. In thirteen vision was very much reduced, seven became totally blind in one eye, and four died from brain abscess or meningitis. Of the three cases reported in this paper, one died from brain abscess and two became totally blind in one eye.

The case coming under my own observation was: W. B., aged 7 years, first seen Jan. 28, 1901. He had been taken four days previously with moderate toothache. The next day the pain was more severe, he had a chill, and the side of the face became moderately swollen. The following day he had a rigor of extreme severity, the face became more swollen and the eye protruded slightly. In the afternoon of the third day he was taken to a physician, who advised the parents to see a dentist, who removed the offending tooth, the first upper molar on the left side. On the evening of the fourth day he was brought to Omaha. He had a temperature of 101° at this time, the left side of his face was swollen and indurated, the eyeball turned out slightly and protruded to such a degree that closure of the lids was impossible; chemosis was marked and the cornea was rapidly becoming roughened by exposure. Thinking from the history and appearance of the case that the antrum of Highmore and perhaps the ethmoid cells had been infected from the diseased tooth, an exploratory puncture was made through the alveolus into the antrum in the vacant space left by the extracted first molar, but no pus was found. Deep exploratory punctures were made in the orbit around the eyeball without result. The following day the symptoms were worse, and a deep incision was made into the orbit above the eye, which was followed by a very small amount of pus. The third day after he was first seen the eye protruded still more and was more markedly deviated outward. Under cocain a deep puncture was made into the orbital tissues just at the inner canthus, which was followed by a large amount of fetid pus. Careful probing demonstrated the fact that a large portion of the internal bony wall of the orbit was denuded, also that it was one of those rare cases in which the infection had traveled upward from the molar tooth following the venous plexus

mentioned by Gurwitch, under the periosteum on the anterior surface of the superior maxillary, and had reached the orbit in this manner. A glass drainage tube was kept in the last incision and in about six weeks all suppuration had ceased. During this time he had a rise in temperature almost every day. When first seen the patient could count fingers at from eight to ten feet with the eye on the affected side and ophthalmoscopic appearances, other than slight blurriness of the nerve, were normal. His vision gradually became worse, and when last seen about three weeks ago he had no light perception in the eye, the optic nerve was completely atrophied, and the eye was still slightly turned outward. During the first two weeks the protrusion of the eyeball being so marked that the lids could not be made to cover the cornea, a thick layer of pure white vaseline was kept constantly in the palpebral fissure and no further trouble was experienced from corneal erosions.

The following two cases are from the practice of Dr. Gifford and have not heretofore been published: Case I.—Benjamin B., aged 27, had an abscess of the left antrum of Highmore. A tooth was removed and the antrum opened through the alveolar process July 20, 1900. This was followed by much swelling of the eyelids on the same side and a discharge of pus through a sinus in the upper lid. When he came to Omaha, August 14, there was a profuse discharge of pus through several sinuses in the left upper lid. A probe detected bare bone and loss of substance in the bony roof of the orbit. The right eye was normal, the left eye had no perception of light, but was objectively normal, except for a slight blurring of the optic disc. After a free opening into the orbit through the upper lid, and the insertion of a glass drainage tube, the pain, which had been severe, disappeared for a day or two, but returned with much general depression, so that on August 17 it was decided to eviscerate the orbit. This was done, and the frontal sinus and ethmoidal cells were opened and the latter found to contain pus clear to the posterior extremity. After this the temperature ranged from 98° to 99°, the pulse from 70 to 48, and the pain in the head continued more or less constantly, making it altogether probable that a brain abscess existed; but while discussing the desirability of searching for it in the anterior part of the frontal lobe at the seat of the defect in the orbital root, the man died very suddenly on the morning of August 22. The autopsy disclosed an

abscess in the anterior part of the frontal lobe containing about half an ounce of fetid pus. This communicated by a small opening with the lateral ventricle. The sphenoidal sinus was found to be half full of muco-pus. Case II.—A woman, aged 40, had the second upper left bicuspid extracted on account of caries. This was followed by an inflammation on that side of the face, accompanied by swelling of the lids and protrusion of the eyeball. Soon after an abscess broke through the upper lid; when the swelling of the lids subsided she was found to be blind on that side. She was not seen by Dr. Gifford for two or three years after this happened. At that time the left eye was found to be normal externally, but with an atrophic nerve and no perception of light. The right eye was normal. The left lower lid was drawn down and out by a scar adherent to the malar bone.

Hirsch mentions a case in which the second left upper molar was extracted by a veterinary surgeon. Infection and phlegmon of the orbit speedily followed, and when the orbital swelling subsided the patient was totally and permanently blind in one eye. German literature is rich in similar cases, and one author mentions the frequency of the infections which follow the manipulations of veterinary surgeons and barbers, who it seems do a great deal of tooth extracting in European countries.

In Sattler's case there had been pain for three months in the region of the left nasolabial fold. Nov. 6 the second left upper molar was extracted. The next day the left eye was swollen shut, pain on the left side of the head, tenderness about orbit, swelling on submaxillary and preauricular glands, eyeball protruding out and down and only slightly movable. Infection of antrum of Highmore, ethmoid cells, and frontal sinus followed in rapid succession, and on Nov. 16 patient died with symptoms of brain abscess. The autopsy showed intense congestion of the meninges, with perforation of dura over the cribriform plate and an abscess in the left frontal lobe.

Neuroses—Knied says that between the first and seventh year almost everything is attributed, not alone by the laity, to teethings, hence the literature is rich in this respect.

Power, in concluding an address before the Odontological Society of Great Britain upon the connection between ophthalmic and dental disorders, spoke as follows: "Having, however, established the

existence of reflex irritation of the eye, it will perhaps be the best mode of treating the subject if we consider it under the following heads: 1, Reflex irritation affecting striated and unstriated muscles; 2, affecting the mucous membrane and cornea; 3, affecting the optic nerve, retina and intraocular tissues. In regard to reflex irritation affecting muscular tissues we have: 1, Paresis of ciliary muscle; 2, of intraorbital muscle; 3, of muscular fibres of iris; 4, of ocular muscles; 5, of orbicularis palpebrarum muscle." He says further, "In conclusion, I think then it may be laid down as a maxim to be generally observed, that in all cases of threatened glaucoma, especially when this is associated with ciliary neurosis and obscure pains in temple and maxillary orbital regions; in all cases of mydriasis and probably of myosis originating without apparent causes; in all cases of sudden paralysis of either of the orbital muscles (in absence of cerebral symptoms); in all cases of phlyctenular disease of the conjunctiva; in all cases of sudden failure of accommodation, especially in young children; and finally in cases of exophthalmia, the condition of the teeth should at least be examined."

In a lecture on the relation of ophthalmic to dental disorders Dr. Galezowski, the well-known Paris ophthalmologist, dwelt on the close correlation between some eye troubles and caries of the upper teeth. He said that in young children the slight inflammation and discomforts accompanying the cutting of the first teeth produced keratitis and small corneal ulcers, and that these could sometimes be cured by treatment of the teeth, and that in the shedding of the first teeth a spasm of the orbicularis was sometimes observed which could be removed by extracting the teeth. With the shedding of the third molars corneal inflammations occur. In adults the commonest results of dental caries on the eyes is a weakening of accommodation by reflex action through the fifth pair of nerves. Of this Galezowski gives two examples: An American lawyer had had for two years such weakness of accommodation as to make his work almost impossible. There was no hypermetropia or astigmatism, but two of the molars of the upper jaw were stopped with gold. Dr. Galezowski advised their extraction, and in a few days the patient was able to resume his work. From this it was concluded that the troubles arose from compression of the dental nerve. In another case in which the weakness had lasted for three years,

it improved greatly soon after the extraction of a single molar. There was also a case of temporary but almost complete functional blindness following extraction of an upper molar in a man aged 20. Conversely, in a nervous woman, a patient of Galezowski, who had amaurosis of one eye, perfect sight was immediately recovered by removal of a carious molar on the same side. Dr. Gifford's case book contains the history of a man who became gradually almost totally blind in his right eye in 1888, and remained so for some months until the removal of a carious upper molar on the same side, when he quickly recovered. The case reported by Allport, in which poor vision of some years' standing was permanently cured by the removal of carious upper teeth, is somewhat similar.

Schmidt found in ninety-two patients with toothache seventy-three who had restriction of accommodation on the affected side. He thought this disturbance of accommodation to be due to increased intraocular tension, but Knies believed it to be due to lack of vigorous innervation caused by the distressing pain. Priestly Smith, who measured the tension with his tomometer in sixteen cases, could detect no inequality in the two sides, and later found the tension in eyes under similar conditions in some instances harder and in others softer than that in the opposite eye. Hutchinson reported a case of panophthalmus from spasm of the levator palpebra superioris during toothache. Weill reported a case in which one eye had an excessive flow of tears which greatly annoyed the patient. The lachrymal apparatus appeared to be entirely normal, but upon examination of the cheek on the same side it was found to be slightly swollen and tender. One of the upper bicuspidis was found to be reduced by caries to a snag, and after removal of the roots the epiphora ceased.

Amblyopia.—Hermann reported the case of a girl 5 years old who suddenly became totally blind after extraction of the second upper deciduous molar. She was found to have choked disc in each eye and the left abducent was paralyzed. After two days she began to have light perception, and after four months vision in her right eye was a little over 20-100 and that of the left was 20-50. This is perhaps analogous to the blindness which has been known to follow surgical procedures on the turbinate bodies.

Swanzy, the Dublin oculist, writes: "Reflex amblyopia is said to have been observed in connection with irritation of the fifth

nerve, especially the dental branches; but I have not seen such a case and am skeptical as to its occurrence." On the contrary, De Wecker relates the case of a seamstress in whom the sight of both eyes was reduced to mere light perception after repeated severe attacks of toothache. Extraction of carious teeth from the left upper jaw resulted in restoring normal vision to the left eye, and later extraction of those in the right upper jaw restored vision in the right eye. Many more of these cases are reported by various authors.

Knies says that pains in the upper teeth are frequently symptoms in the so-called ciliary pains of keratitis, also that neuralgic toothache is sometimes a prodromal symptom of glaucoma. Redard recites the case of a woman 28 years old who had glaucoma in her right eye. The tension was very high, while the left eye was normal. Dr. Abadie did sclerotomy upon two different occasions, with only temporary benefit. Examination showed carious teeth in the right upper jaw, upon the removal of which the tension of the eye became normal.—*Western Med. Review*.

* * *

EMPYEMA OF THE ANTRUM OF HIGHMORE. By Mr. J. H. Bradley, New South Wales. I do not purpose going deeply into the various opinions regarding the causes of empyema, but should like to remark in passing that the theory that this disease is commonly due to some dental lesion is somewhat in disfavor of late. Though when one considers the close anatomical relation existing between the roots of the bicuspid and molars and the floor of the cavity the probability of an alveolar abscess being the cause seems very patent. The prevailing opinion is that it follows on some constitutional derangement, such as influenza, predisposing conditions being polypi, hypertrophic rhinitis, deviation of the septum, etc., which by interfering with the opening under the middle turbinate prevent the escape of any fluid the antrum may contain.

Operative treatment is resorted to, and this consists in opening at a suitable point, curetting, draining, and subsequent douching. The old operation of extracting one or more teeth and opening through their sockets has not been practiced so generally since the medical profession and patients have been educated to value sound natural teeth as organs not to be parted with till every means for their preservation has been exhausted. Another difficulty is that

the thickness of the walls through which the instrument has to pass renders it difficult, if not impossible, to thoroughly curet the floor of the sinus. Opening through the mesial wall after removing part of the anterior portion of the inferior turbinal has its disadvantages: The difficulty of maintaining a channel for further treatment; the position of the opening renders the douching by the patient a very awkward procedure, as, although the passing in of a syringe point or a Eustachian catheter by the experienced hand of surgeon or nurse is an easy matter, the average patient finds it a very difficult feat to accomplish; the danger of having an opening into a cavity in which was probably the original seat of the disease. The operation usually practiced when there are no teeth missing or badly affected by caries is to remove a portion of the wall in the region of the cuspid fossa. The sinus can be readily curetted and the opening maintained by means of a plug retained by a band attached to one of the bicuspid.

My object in bringing up the subject is to draw attention to a point which does not seem to have attracted any serious notice heretofore. At least I can find no reference to it in surgical authorities dealing with this branch of practice. To make my point the more clear I will take the liberty of reminding you of some dry details of the distribution of the nerves, etc., in this region. The diagrams showing the course of the superior dental nerves vary in all the text-books that I have seen. They all agree in this respect: the anterior division supplies the incisors and cuspids, the middle division the bicuspid, and the posterior division the molars. De Morgan in *Tomes* represents the posterior division as two branches, one supplying the molars and the other reinforcing the plexus formed by the three divisions over the roots of the molars and bicuspid. The anterior superior dental branches off the maxillary division of the fifth just before it leaves the infraorbital canal to emerge through the infraorbital foramen. It passes just below the lower boundary of the foramen and proceeds downward and forward in a canal in the anterior wall of the antrum to supply the incisors and cuspid.

The middle superior dental is not always present as a distinct branch, in which case its fibers are associated with those of the anterior superior dental. When distinct it passes from the infraorbital canal at a variable point, usually rather toward the posterior part of

its floor. It then proceeds downward and forward in a canal traversing the anterior wall of the antrum and floor of the cuspid fossa to supply the bicuspid.

The posterior superior dental is usually represented as two branches, leaving the maxillary division while it lies in the sphenomaxillary fossa. They proceed downward and forward on the zygomatic surface of the maxilla for a short distance, then enter the posterior wall of the antrum and proceed forward to supply the molars and communicate in a plexiform manner with the middle and anterior superior dental to form the superior dental plexus. Each of these nerves furnishes, amongst others, twigs to supply the mucous membrane of the antrum. The blood supply in this region is derived from branches of the third part of the internal maxillary artery which in general traverse the canals with the dental nerves.

It will be obvious after this description that in opening into the antrum through the cuspid fossa, the middle superior dental, or at least that portion of the superior dental plexus supplying the bicuspid, is severed, thus depriving those teeth of their main nerve and blood supply. There seem strong *a priori* reasons for supposing that such an injury to a nerve would be followed by grave disaster to the teeth. The result of severance of the pulp from its nerve supply is, as we know, degeneration and ultimate death. In the present case the bicuspid would be the teeth to suffer. Should death occur we must then expect in many cases pericementitis and abscess to supervene. If suppuration sets in it seems possible that sometimes pus may find its way into the antrum through the floor, which is perhaps weakened by long-standing inflammatory conditions, and so presumably retard or prevent the cure of the disease. Or even short of this, the presence of an alveolar abscess in close proximity would seem likely to keep up a reflex irritation in the antrum tending to prevent or delay the natural healing or cure of the disease conditions therein existing. If it be true that some such causes as these, direct or reflex, are indeed sometimes sufficiently potent to excite inflammation in a previously healthy antrum—and some think that this is the most frequent of all causes of antral inflammation—it is by so much the more likely to have a detrimental influence on the health of an already diseased sinus. It seems advisable, at any rate, that after the cuspid fossa operation the patient should be sent to a dentist for examination. As I will

point out later, it will be necessary to have several examinations, at, say, monthly intervals.

Of course I recognize the possibility that the life of the pulp may be maintained by fibers passing in below the level of the opening made in the bone from the superior dental plexus. The course of the fibers through the plexus has, so far as I can ascertain, not yet been followed. A case illustrating the fact that life may persist for some time after the main trunk is supposedly severed came under my notice a short time ago. A lad was sent to me for a plug to maintain an opening through the cuspid fossa. I saw him a month after the operation and carefully examined the bicuspid, finding them undoubtedly alive. I next saw him about twelve months afterward, and on transilluminating found the bicuspid, which were quite sound, dead; I fancied that the first molar was also affected. The diagnosis in this case was not conclusive, as the tooth was very extensively filled. I do not as a rule see patients again after fitting a plug, but in all cases which have come under my notice the bicuspid were dead.—*Cosmos*, Jan., 1902.

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MODELS WHICH ARE DURABLE AND WHICH CAN BE PAINTED. By Dr. G. Port, Heidelberg, *Oesterreich-Ungarische Vierteljahrsschrift für Zahnheilkunde*, Oct., 1901. Reviewed by Dr. W. H. Potter in *International*, Jan., 1902. The ordinary model made from plaster of Paris is not so hard and durable as could be desired, and it fails to suggest the color of the tissues which it represents. The author takes it for granted that the production of a model more durable than the one commonly made, and also of one which can be painted so as to represent in a lifelike way the conditions of the tissues as they exist either in health or disease, would be an end much to be desired. And first he reviews the way in which attempts have been made for the improvement of models.

A much used method is to simply paint the plaster model with an oil color. The author says this does not accomplish much, as the color soon strips off, and the appearance and value of the model are thus seriously impaired. A second method is that of Professor de Marion and Touvet-Fanton—plaster is abandoned and a mixture of two parts paraffin to one each of wax and stearin is used. These three substances are melted together and coloring-matter added. To reproduce the color of gum-tissue madder-red and carmine are

used, and for the tooth substance mignonette yellow. The properly colored waxy mixture is poured warm into the impression and a model produced. The process of making a model in this way is very complicated, and takes much time. Very beautiful results can, however, be obtained by it. The author next speaks of a much used process whereby a plaster model is boiled in stearin. By this means a model obtains a very beautiful yellowish color, but its durability is not really increased. A fourth method is that of Julke. Take six parts of plaster and one part of freshly slacked lime. Mix these together and use as ordinary plaster. When the models are well dried, place in a ferrosulphate and zinc sulphate solution. A fifth method consists in immersing plaster models, which have been well dried, in an alum solution. The models to be immersed for half an hour. The solution should be made of one part iron-free alum and six parts water.

Although much has been attained for the improvement of models by the above-mentioned methods, the author believes that his own method is a decided advance upon those described. He uses a mixture of plaster of Paris, chalk, and a glue solution. This combination is poured into the impression and allowed to harden. The glue to be used is not the cabinet-maker's common glue, but French hare or rabbit glue. Of this glue a three to five per cent solution is made. After the preparation of the glue solution, a mixture of plaster and chalk is made in the proportion of three parts plaster and one part chalk. This mixture must be very exact. The plaster-chalk mixture must now be made with the glue solution into a stiff porridge. This porridge cannot be poured into an impression as if it were a simple plaster mixture; it is too viscous. A hair paint-brush must be used, and the material must be painted into the irregularities of the impression. By this means the impression can be filled. At least twelve hours are required for hardening before the model can be separated from the impression. Any form of impression material can be used. A model made in this way has at first almost the hardness of a plaster model, and after about eight days it is like hard wood to cut with a knife. The model must now be prepared for painting by a coating of linseed oil. When this is thoroughly dry, oil colors can be used. These must be much thinned with turpentine. It is better to apply several thin coats than one thick one.

The author gives the following list of colors which he finds useful in the painting of models: 1. Madder lake 3, dark rose. 2. Bright, English red. 3. Carmine cinnabar. 4. Light ochre 1. 5. Clear, brilliant, yellow. 6. Terra di Siena. 7. Prussian blue. 8. Parisian ultramarine. 9. Clear green, cinnabar. 10. Burned terra di Siena. 11. Ivory black. 12. Kremnitz white. For the representation of normal mucous membrane a mixture of carmine cinnabar and Kremnitz white is to be used. Madder lake with white gives a rose color shading into a blue which represents an inflamed mucous membrane. The color of the teeth is produced by a mixture of ochre and white. The unessential parts of the model are painted black. Models constructed by the above methods are not only very durable, but are also true to nature, and well repay the time spent.

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X-RAY IN DETERMINING THE LIMITS OF THE FRONTAL SINUS. By John Harold Philip, M.D., San Francisco. In the June number of the *Laryngoscope* I note the following from the pen of Dr. Jonathan Wright: "I have lately seen the frontal bone perforated and the dura mater wounded with disastrous results in a case in which the frontal sinus was lacking on that side."

Dr. Howard A. Lothrop of Howard University, after carefully examining 250 frontal sinuses, from dissecting-room material, concluded that there was no external landmark defining the superior limit of the sinus; that the external angular process of the frontal bone was not often the limit of the sinus laterally; that in the majority of cases the septum (between the sinuses) deviated to one side or the other within a range of five millimeters or even more, notwithstanding its frequent median position inferiorly; that the plane of the septum was roughly antero-posterior, passing between the anterior and posterior surfaces, but occasionally it might so deviate that one sinus would lie partly overlapping the other, even to an extent of two centimeters; that there were no absolutely certain guides by which the degree of development of the frontal sinus in the adult could be determined before attempting to expose it.

Previous to entering a frontal sinus some months since I secured three frontal bones and attempted to explore with my drill that sinus corresponding to the one on which I was to operate. I was amazed to find that No. 1 had almost no sinus on the left side; that the sinus on the left side of No. 2 extended not more than three

millimeters beyond the median line and that there was no septum; there was no communication with the left nasal cavity. No. 3 seemed normal. One cannot well overestimate the surgical importance of such anatomical anomalies, whose frequency is unquestioned.

As an aid to determining, previous to operation, the limitations of the frontal sinuses I suggest the X-ray. The radiograph illustrating this article was taken for me by Mr. Cox of the San Francisco Polyclinic. Length of exposure was eight minutes; distance of tube from plate, twenty inches; plate overdeveloped and the print was sun-printed and overtone. My patient's head lay obliquely on the plate and the affected sinus lay undermost. This explains the position of the canula, its tip extending apparently beyond the posterior wall of the sinus. For cosmetic reasons I entered the sinus from within the nasal cavity. (My patient was a young woman of 24.) Wishing to be certain that my canula was not in an anterior ethmoidal cell, I had a radiograph taken, when to my surprise I saw clearly defined the limits of my sinus.

Incidentally it may be of interest to note that the antrum on the left side served apparently as a reservoir for the pus coming from the corresponding frontal sinus and anterior ethmoidal cells. I removed the anterior one-third of the middle turbinate and irrigated the antrum through the ostium maxillare. After a few days' treatment the fluid used for irrigation was returned almost clear in the morning, but rather cloudy in the afternoon, although only one-third as much time had elapsed between the washings. I plugged with gauze the natural opening into the antrum and was rewarded by getting no evidence whatever of pus as long as it remained there. This proves, it would seem, that the antrum in question was not the seat of an inflammatory process. It ceased discharging pus only when it no longer gravitated into it from the anterior ethmoidal cells and frontal sinus, by way of the infundibulum. The right antrum was also involved; it was entered through the alveolar process and a tube left in for draining.--*Jour. A. M. A., Mar. 1902.*

ALLOY.—According to the *Zahntechnische Reform*, one hundred parts of copper and six of antimony form an alloy with properties very much like those possessed by gold. The antimony is added to the melted copper and the whole is covered with charcoal ashes, magnesia and lime. It can be rolled and worked like gold; its color is like that of gold, and it is said not to become dark with age.

Letters.

THE BOSS CONSULTS WITH AN EXPERT.

(AS TOLD BY THE OFFICE BOY.)

I never Seen a man like the Boss to be Everlastin'ly gittin' in some kind o' Mux. Seems like he kind o' Hunts Round to find out whether they ain't some wrong Way fer Doin' things. You'd think Experience would Learn him to Watch Out, an' not git Fooled twice in the same way. But it don't seem to. He'll Set Down an' weave along by the Hour, a-tellin' me how dentists had orter do, an' you'd think they wasn't no Scheme could possibly Ketch him; then he'll Tumble to some old Fool Trick, an' lose Time an' Money, an' git himself Wild with Rage an' Disapp'intment, right in the Middle o' tellin' me. He done that very Thing this morning.

It was this way; he had one o' them Cases of what he calls a Tumor, growin' on a man's gum, an' he'd been treatin' it a Spell, an' it wasn't gittin' no better, an' he got Skeered, I reckon. Says he to the man, "I ain't so sure I know what orter to be done about this. What say ef I call in a Specialist, to consult with me?" "All right, jis' as you say." So the Boss he called up Dock Hotty, what's had a reg'lar Medical Course, besides Graduat' at a Dental College. The thing that Supprised me about that was, the Boss has always kind o' Sniffed whenever Dock Hotty's name was mentioned, an' I even heered him say once he wasn't so Mutch, only lettin' on he was, an' he'd called him in once before, an' they both got Mad, an' the Boss said then, that was the last Time he'd ever ast Dock Hotty's opinion about anything.

So he called him up by telephone, an' Dock Hotty he said he'd haf to know first what he was a-goin' to be Paid, an' he said he Couldn't Think o' leavin' his Offis an hour fer a cent under Twenty-Five Dolers. The Boss he-seemed Thunder-Struck at that, so he telephoned back an' said the Patient wasn't only a book-keeper, on a seven hundred Doler salary, an' nine children to Support, an' his wife a Infidel (er Invalid, er somethin'), an' so after some further Parleyin' Dock Hotty he Come Down to Three Dolers, pervided the Patient would come to his Offis right Away, 'cause he was a-goin' to be most Offul Busy, all day, after about a Haf Hour. Then the

Boss he told the Patient what Dock Hotty had said, an' he kind o' Kicked about the Price, the first thing. He said he could go to a Barber an' git it Cut Off for a Quarter, an' he wasn't a-goin to pay no Fancy Price for Fancy Fussin', nohow. He riz up out o' the Cheer, an, put on his Hat, like he was a-goin'. Then the Boss he ast him to wait a Minute, an' he telephoned agin, an' d'rec'yly he told the Man that Dock Hotty had agreed to come there for Two Dolers, pervided it could be attended to Right Away, fer he hadn't no time fer Foolin'. Then the Patient he finally agreed to that, an' so in about Five Minutes in come Dock Hotty. He come in the Operatin' Room, an' he never paid no attention when the Boss introduced him, but he went up to the Man an' he pulled his mouth open like it was a Valise, an' he Looked at the Tumor, an' he Prod-ded it with his Thumb, an' all the Time the Boss was a-tellin' him what he reckoned it was, an' all about it. The Boss said as near as he could make out it was one o' them Cystic Tumors, though there was Indications that it might belong to the class of Fibroma, or even Myomata, or likely as not Sarcoma, or somethin' or other. Dock Hotty he never paid the Least Bit of attention, but he looked Offul Profound, like he was a whole Medical University, with a Museum of Anatomy throwed in. He'd prod awhile, an' then he'd say, "Close yer Mouth," "now Open," an' then he took out a Pencil an' he Writ somethin' on a piece o' Paper, an' at last he said to the Boss, "Fetch me some lukewarm Water," like the Boss had been his Offis Girl. Then when the Boss brought it Dock Hotty he syringed out the cut in the Tumor that the Boss had made, an' he took Up some o' the Pus that come out, on the point of a Spatula, an' looked at it reel Close, an' then he took out his Handkerchief an' Blowed his Nose like a Dinner Horn, out on the Farm.

Then says he, "Fetch me your Microscope," like he reckoned it was in the Closet. An' the Boss he looked Flurried, an' he got Red, an' he had to admit he hadn't got no Microscope. Then Dock Hotty he give jis' the teentiest bit of a Smile, kind o' Sarcastic, like as if he'd of said, "I knowed it," an' says he, "You can't tell nothin' about what this reelly is, without you've got a Microscope." The Patient he glanced kind o' Suspicious at the Boss, like he was beginnin' to see for the First Time how Offul he'd been Bamboozled, an' the Boss he kep' a-gittin' redder an' redder, but he was kind o' gittin' Mad, too, seein' how the Patient was bein' Impressed. Says

he, "You don't need no Microscope to tell what that is, Hotty. I more than Haf know myself, only I ain't so certain. If it ain't one o' them Spindle-Celled Sarcoma it's a Myeloid Growth with lanceolate or else caudate cells, though I couldn't find no cancellous bone, an' that bein' the case I doubt whether it ain't simply a Carcinoma springing from the Epithelium, filled with Vibriones or else Spirilla, blamed ef I'm sure which."

I seen that kind o gained the Patient's confidence agin, for Dock Hotty he hadn't used a single dern Medical Term, thus far, an it was clearly a Hoss on him, up to this Time. The Boss seen his Advantage, so he said some more. Says he, "My experience is, a Microscope don't help out wuth a Cuss in identifyin' pathogenic bacterial forms. I've got my Naked Eye trained so that I kin tell easy whether it's Saccharomyces er Torulaceae in most Cases, an' I never yit seen one o' these Microscope cranks that could come near that." Dock Hotty he turned an' he Looked reel Stiddy at the Boss, when he said that. Dock Hotty ain't so Excitable as the Boss, that is to say, he don't git Mad so quick, but when he does git Mad, everybody Knows It. Says he, "They's plenty o' Dentists that's got Microscopes, that won't agree with *that* opinion. If you've got Eyes that Good, all I've got to say is, you orter Use them sometimes, when you're Fillin' Teeth. What the Diavolo an' Tom Walker did you call me in fer, anyhow, ef you know so Mutch about this Case!"

Then the Boss he acted jis' like a Little Dog when a Big Dog kind o' Threatens him, an' the Little Dog he kind o' whines, an' shies off, like he was Afeard, but d'rec'ly he screws his Courage up agin, an' he comes nearer an' Barks at the Big Dog, like he was a-sayin', Come Ahead, ef you want to Fight, but you better leave me a-be. The Boss he ain't quite so Big as Dock Hotty, an' besides, his lower Chist swells out like a case o' Mumps. But he got back at Dock Hotty, all right. Says he, "What'n thunder do you mean, a-comin' in my Offis an' treatin' me like you was a whole Dental College Faculty, an' me only a Student jis' entered College fer Four toilsome years o' Billiards an' Vaudeville! Con-sarn your insolence, sir! Orderin' me 'round like I wasn't only the Offis Boy, too!"

It seemed like the Boss couldn't stand it a instant longer, but he up wuth a sofa cushion an' he Banged Dock Hotty over the Head

fer all he was Worth. Dock Hotty he seemed Considerable Surprised, but he never lost his Head, an' he grabbed at the first thing handy, which happened to be the Boss's Hot-Air Syringe, an' he Lit Onto the Boss an' he walloped him over the Head with the Rubber Bulb, like he was Insane. I was so took by Supprise myself, that I was tremblin' an' shakin' like I was havin' a Attack o' Gingivitis, an' I couldn't do nothin'. The Canary Bird hangin' in a Cage near the Boss's Cheer was drove in a Fit, it was so Excited, an' was flutterin' round an' spillin' feathers like it was Moulтин' Season. Before I could even offer to Interfere, the Boss's Patient he sprung out o' the Cheer, an' he rolled up his sleeves Offul Quick, an' says he, "This seems to be right in my Line." An' before I knowed what had happened he Banged Dock Hotty one under the Chin, that sent him Headfirst agin the Door, an' almost at the same instant he Fired his other Fist agin the Boss's Nose, an' stretched him out about Ten Foot distant, on the Hall Oilcloth. Says he, "Now you two Fakirs fix matters up betwixt you at your Leasure; I'm a-goin' home. You needn't send me no Bill, an' I won't send either o' you none!"

I seen Dock Hotty was purty bad Hurt, fer he Laid Still, with his Eyes kind o' Glazed, like he didn't no nothin' so I stood over him a-countin' Ten, to see sure that he was Reely Out. But he never moved, so I throwed a Pitcher o' Ice Water on him' an' jis' then the Boss he begun to Git Up, kind o' slow an' Feeble, like he was jis' a-gittin' over Typhoid Fever. Then Dock Hotty he begun to Git Up, an' I told him he'd Lost, an' the Boss was Champeen, an' he begun to Cry. So the Boss he Seen That, an' nothin' would do but *he* must start in to Cry, too. Then they both got up, an' the Boss he throwed his arms round Dock Hotty's neck, an' he told him he'd always had a most Affectionate Regard fer him, an' he'd always stood up fer him when the breath of Slander assailed him, an' he wisht in his Hart they was Brothers. Dock Hotty he was kind o' Tilted Up agin the Boss's Breast, and he wasn't quite Woke Up yet, but he cried some more, when the Boss said that, an' he Wiped his Eyes on the Boss's Neck-Scarf, an' then he said his Front Tooth was Loose, an' the Boss he said, "You sit right down here, an' let me Fix It. Con-found that Patient o' mine; I'm a-goin' to have him Arrested for this!" So he tied Dock Hotty's tooth with a Silver Wire, an' after about Fifteen Minutes, after huggin' an'

Pattin' Dock Hotty, an' sort o' Cheerin' him Up, says the Boss, kind o' Sly, like he didn't want me to Ketch On, "Let's go over to Delmonico's an' see how the Political Champagne is doin'." (They ain't no Delmonico's in this city, reely; that's what they call Steward's restaurant, fer a nickname.)

I wasn't Fooled wuth a Cent, an' after about Two Hours the Boss he come back alone, an' he was Offul Meller, an' he set down an' held my hand like a Blame Fool. Presently, says he, 'James, you may say what you please about Dentists, but in my Opinion they ain't a Dentist in this city kin compare fer a Moment with Dock Hotty. I jis' love that man. Kind-Harted, Amible, Efficient. A man without a Peer, James. I wisht I was such a Dentist, James. If you're really bent on enterin' the Dental Perfession, don't take *me* fer a Model; you take Dock Hotty."

Cincinnati, O.

FRANK W. SAGE, D.D.S..

HEMOSTATIC AFTER TOOTH-EXTRACTION.—Cotton-wool soaked in oil of turpentine and pressed into the bleeding cavity after tooth-extraction will check the hemorrhage promptly.—*Medical Summary.*

ALCOHOL CORRODES.—By Dr. J. B. Hodgkin, Washington, D. C. Some time ago I saw in a journal that the Johns Hopkins Hospital was using absolute alcohol for sterilizing purposes. Thinking this a good method of rendering aseptic my hypodermic needles, I dropped one in an alcohol bottle and left it there until I should want it again. The result was a needle almost as much corroded as if it had been dropped in acid. Puzzling over this, an unexpected property of alcohol, only a week after I saw the enclosed paragraph in the *Scientific American*, which is self-explaining. "The action of alcohol on metal is peculiar. Dr. Malmesjac in his experiments used 95 per cent alcohol, which left no residue on evaporation. The metals, copper, iron, tin, lead, zinc and galvanized iron, were corked up with alcohol in glass flasks and kept at ordinary temperatures for six months. The copper was entirely unacted upon, but in all the other flasks there was a deposit on the bottom and the metal was covered with a similar deposit. In the case of tin, lead, zinc and galvanized iron the deposit was white; that from the iron was red, resembling iron rust, says *Science*. All of the liquids, except that in which the lead had been placed, filtered clear; the latter retained a milky appearance after repeated filterings through double filters. The clear filtrates from iron, lead, zinc and galvanized iron gave much residue on evaporation, while the residue from tin was hardly appreciable. In the former cases it is clear that not only had the metal been oxidized, but a considerable quantity had entered into the solution. These experiments have an important bearing on the storing and shipping of alcohol, as absolute alcohol is generally purchased in galvanized iron cans, so that it ought to require redistillation."—*Items.*

The Dental Digest.

PUBLISHED THE FIFTEENTH DAY OF EVERY MONTH

At 2231 Prairie Avenue, Chicago,

Where All Communications Should be Addressed.

Editorial.

SOME FACTS CONCERNING THE PRESIDENT OF ST. LUKE'S HOSPITAL OF NILES, MICH.

"CIRCUIT COURT BAYFIELD COUNTY.

"STATE OF WISCONSIN }
 Against
 "A. C. PROBERT. }

"We the jury sworn and empanelled to try the issues in the above
"entitled action, find the defendant guilty in manner and form as
"alleged in the information and find the amount so fraudulently em-
"bezzled at the sum of fifteen hundred dollars.

"J. O. GROUT, Foreman."

"State of Wisconsin,

"In Circuit Court Bayfield County.

"State of Wisconsin

vs.

"A. C. Probert.

"It is the judgment of this court that you, A. C. Probert, be con-
"fined in the state prison at Waupun, at hard labor by the Warden
"thereof for the period of two years and six months, the first day
"of your confinement therein to be solitary confinement."

"Wisconsin State Prison, Waupun.

"C. C. McClaughry, Warden.

Jacob Fuss, Chief Clerk.

WAUPUN, March 23, 1902,

"D. H. Crouse,

"Associate Editor DENTAL DIGEST,

"Dear Sir—I find your letter of the 20th on my return from a trip
"through Illinois. A. C. Probert was sentenced to this prison on
"July 23, 1896, for a term of two years and six months, by the
"Bayfield County Circuit Court, for the crime of embezzlement, and

"was discharged upon the reduction of his time by good conduct,

"Sept. 9, 1898.

"Yours very truly,

"C. C. McCLAUGHRY, Warden."

ASHLAND, Wis., March 24, 1902.

"D. H. Crouse, Esq.,

"Chicago, Ill.

"Dear Sir:—Everything that I have said about A. C. Probert is a
"matter of public record. For a number of years I did dental
"work for Probert and his family, and visited him twice while he
"was in the penitentiary at Waupun. He called at my office several
"times afterward and once after he became a "Doctor." At that
"time he gave me his card which read—"Arthur C. Probert, M.D.,
"Sec'y & Treas. of St. Luke's Hospital, Niles, Mich." You see I
"know the man.

"I have no sympathy for those who buy such "diplomas" or "cer-
"tificates," They know what they are paying for and are just as
"big fakes as a man who would sell the things.

"Yours truly, J. B. WILLIAMS, D.D.S."

The above verdict and sentence are taken from the records of the Bayfield County Circuit Court, in the State of Wisconsin. The letters are from the Warden of The Wisconsin State Penitentiary at Waupun, and from Dr. J. B. Williams of Ashland, Wis. The A. C. Probert—the ex-convict mentioned in the verdict and sentence of the Court and Warden's letter as having been convicted of the crime of embezzlement, is the same A. C. Probert who under the name of Arthur C. Probert on the 17th day of November, 1898, two months and eight days after his discharge from the Waupun Penitentiary, joined in articles of association for the incorporation of "St. Luke's Hospital of Niles," he having been the leading spirit in the promotion of this confidence-game institution.

This is the same man who sends out his circular letters inviting the purchase of membership on the dental staff of "St. Luke's Hospital of Niles," and signs himself "Arthur C. Probert, M.D., D.D.S., President."

He is the same Arthur C. Probert who, in the alluring literature sent out by himself in furtherance of his confidence scheme, represents the capital stock to be \$100,000. We here reproduce what

the articles of association for incorporation of St. Luke's Hospital of Niles, as recorded in the office of the Secretary of the State at Lansing, Mich., and at St. Joseph, Berrien County, Mich., say on this point:

"ARTICLE IV.

"The capital stock of the corporation hereby organized is the sum "of ten thousand (10,000) dollars."

"ARTICLE VI.

"The amount of said stock actually paid in at the date hereof "is the sum of one thousand (\$1,000) dollars, being 10 per cent of "the capital stock."

The subscription to this stock is further shown to have been as follows:

"Dr. Charles W. H. B. Granville, Niles, Mich 196 shares.

"Arthur C. Probert, Washburn, Wis 203 shares.

"Anna Bell Granville, Niles, Mich 1 share."

It is at once seen that Probert's paid in capital was exactly five hundred and seven dollars and fifty cents (\$507.50), and this more than one-half the assets of the entire institution.

The Granvilles, whoever they may be, are spoken of here, in the absence of a better acquaintance, as people to be known only by the company they keep.

Arthur C. Probert, M.D., D.D.S., LL.D., the man who when on trial for embezzlement in a Wisconsin Court cunningly urged as a part of his defense, that if there was any offense under the law it was larceny and not embezzlement, is the President and Treasurer of this disreputable outfit.

How his various degrees were acquired is unknown to us, but we think it can be found out, and when ascertained the *DIGEST* will publish the facts for the information and protection of the profession and the public.

Dr. F. H. Essig, Secretary of the Michigan State Dental Association, writes that the institution is a fake, pure and simple, and that no pretense is made of doing any hospital work.

In the October, 1901, *DIGEST* we published the various screeds sent out by this institution and called attention to its probable fraudulent character. We also published a disclaimer by Dr. Edgar O. Kinsman, protesting against the use of his name on the letter-head of the said hospital as utterly unwarranted.

To prevent further use of his name we advised Dr. Kinsman to enjoin the individual running this Gold Brick scheme and to sue him for damages. We also urged any others whose names had been used without their consent, to send out a disclaimer, secure injunction, and sue for damages. Since that time other dentists have stated in the journals, that their names were used on the letter-head of this so-called "Hospital" wholly without their knowledge or consent, but thus far nothing seems to have been done to stop the abuse.

We had supposed that when the fraud was exposed in the DIGEST this man would think it useless to continue operations, but he is still throwing out his bait to the unwary and unscrupulous. Hence from motives of public welfare we again devote some space in this issue to present such facts as will better acquaint the public and the profession with St. Luke's Hospital of Niles, Michigan, and its President, Arthur C. Probert.

It has been urged that the Protective Association take up this matter, but we are reasonably busy with other things, and furthermore do not see how it properly comes within the scope of the organization's work. We would strongly urge those dentists whose names have been used without warrant to lay the matter in detail before the Postoffice authorities at Washington for their consideration, to the end that if it be found that the law prohibits his practices that Probert may be again sent to the penitentiary, this time for using the mails to promote fraud.

ILLINOIS STATE BOARD OPINIONS.

In the December, 1901, issue of the DIGEST we published a communication from a correspondent who questioned the justice and validity of rule V in the set of rules laid down by the Illinois State Board of Dental Examiners, claiming that the Board had not put the right interpretation upon the dental law of the state. To settle the matter the Board asked the Attorney General of Illinois for an opinion on rule V and in reply he submitted the following, which covers the ground:

Feb. 11, 1902.

Hon. T. W. Pritchett,
Pres. State Board of Dental Examiners,
White Hall, Ill.

DEAR SIR:—Your favor of the 7th inst. is at hand. In reply

permit me to say that under the provisions of section one of the Act to insure the better education of practitioners of dental surgery, etc., approved May 30, 1881, there are four classes of persons who may be allowed to practice dentistry in the State of Illinois, to-wit:

(1) Persons who are engaged in the practice of dentistry at the time of the passage of the Act.

(2) Persons who shall have received a diploma from the faculty of some reputable dental college.

(3) Persons removing into this state who shall have been for a period of ten years prior to such removal practicing dentists.

(4) Persons holding the diploma of doctor of medicine from any reputable medical college.

These four classes of persons are to be allowed to practice upon the following conditions:

1st. As provided by section 4, all persons who are engaged in the practice of dentistry at the time the Act took effect must, within six months after the Act took effect, have registered with the Board of Examiners provided for in said act.

2d. All such practitioners who did not register within the six months must pass a satisfactory examination before said board before continuing the practice.

3d. While section 6 says that any and all persons who shall so desire may appear before said Board and be examined, etc., this means any and all persons who are eligible to the examination, and includes all persons who have received a diploma from the faculty of some reputable dental college, and all persons removing into this state who shall have practiced dentistry for a period of ten years, and all persons holding the diploma of doctor of medicine from any reputable medical college.

The section further provides, however, that graduates of a reputable dental college may be licensed to practice dentistry without examination. The law makes no distinction in the qualifications to practice dentistry between persons who have practiced dentistry for a period of ten years before removing into this state and persons holding the diploma of doctor of medicine from any reputable medical college.

As to the extent of the examination to be made, that is within the discretion of the Board of Dental Examiners, the only limitation on it being that it shall pertain to the qualifications of the applicant for the practice of dentistry.

I remain, very respectfully,
H. J. HAMLIN, Attorney General.

O
Ess.

Subsequently to the obtaining of this opinion, the Board sought the Attorney General's advice as to the Board's duty in giving examinations for licenses in other than the English language. Upon this question his opinion is as follows:

March 21, 1902.

Hon. T. W. Pritchett,
Pres. State Board of Dental Examiners,
White Hall, Ill.

DEAR SIR:—Your favor of the 15th inst. at hand. In my opinion the State Board of Dental Examiners cannot be required to examine applicants for license to practice dentistry in any other than the English language. Very respectfully,

O

H. J. HAMLIN, Attorney General.

Ess.

The Board is to be congratulated upon these opinions from the Attorney General, as they clearly define the law as it stands, and give the Board legal authority for carrying out the law as interpreted by them. Surely an era of better things may be looked for in Illinois, as we now have a good law and a capable, trustworthy board.

Notices.

WASHINGTON STATE DENTAL SOCIETY.

The Washington State Dental Society meets at Tacoma, May 22-24, 1902. A large attendance is expected, and several fine papers and clinics are promised. The profession is cordially invited to be present.

EASTERN INDIANA DENTAL ASSOCIATION—CHANGE OF DATE.

The Eastern Indiana Dental Association will meet at Shelbyville, Ind., May 7-8, 1902, instead of May 14-15, as was announced in the last DIGEST.

A. T. WHITE, Sec'y, Newcastle.

MISSISSIPPI STATE BOARD OF DENTAL EXAMINERS.

The Mississippi State Board of Dental Examiners will hold its annual meeting in Jackson on Tuesday, May 27, 1902.

W. R. WRIGHT, D.D.S., Sec'y, Jackson, Miss.

VERMONT STATE DENTAL SOCIETY.

The twenty-sixth annual meeting was held at Rutland, March 19-20, 1902, and the following officers were elected for the ensuing year: Pres., J. A. Pearson; 1st V.-P., J. H. Jackson; 2d V.-P., H. Burbridge; Rec. Sec'y, Thos. Mound; Cor. Sec'y, Grace L. Bosworth; Treas., W. H. Munsell; State Prosecutor, J. A. Robinson; Ex. Com., G. F. Barber, G. O. Mitchell, J. C. Hindes. The next meeting will be held at Burlington, Vt., the third Wednesday of March, 1903.

COLORADO STATE BOARD OF DENTAL EXAMINERS.

The Colorado State Board of Dental Examiners will meet in Capitol Building at Denver, Tuesday, June 3, 1902, at 9 a. m., to examine applicants for license to practice dentistry in the state. In addition to written and oral examinations, applicants must supply their own patients, instruments and materials, and come prepared to do practical work. All applications must be completed prior to June 3. For blanks and information address

DR. H. F. HOFFMAN, Sec'y, California Bldg., Denver.

NEW JERSEY STATE DENTAL SOCIETY, COMMITTEE ON ART AND INVENTION.

To all those who during the past year have invented or designed any instrument, appliance, method or operation in or applicable to the art and science of dental surgery:

The New Jersey State Dental Society respectfully solicits you to send a contribution of such article or appliance that you have invented or designed, with a full description of the same. All appliances will be classified and receive due consideration at the hands of the society. We stipulate only that all articles sent shall be of practical value and of general interest to the profession at large. We shall make an interesting exhibit under the head of Art and Invention—one that will be of value not only to the profession but also to the inventors and designers. A full report will be made and printed in the society proceedings. Send contributions by June 24 and not later than July 1, otherwise they may not receive proper classification. All appliances will be well taken care of and returned to the contributors after the session of the society, which will be held in the Auditorium, at Asbury Park, New Jersey, July 16-18, 1902. This year's session will be one of, if not the largest, both in interest and attendance of any previous session of the New Jersey State Dental Society, which is known for its interesting, valuable and well attended sessions.

W. G. CHASE, *Chairman*,

1018 Witherspoon Bldg., Philadelphia, Pa.

MASSACHUSETTS BOARD OF REGISTRATION IN DENTISTRY.

A meeting of the Massachusetts Board of Registration in Dentistry, for the examination of candidates, will be held in Boston, Mass., June 25-27, 1902.

Candidates who have applied for examination will report to the Secretary Wednesday, June 25, at 9:30 a. m., at Harvard Dental Infirmary, North Grove street, and come prepared with rubber-dam, gold and instruments to demonstrate their skill in Operative Dentistry. Any who wish may bring their patients. So far as possible patients will be furnished. The Board in every instance selects the cavity to be filled. Partially prepared cavities never accepted.

The theoretic examination—written—will include operative dentistry, prosthetic dentistry, crown and bridgework, orthodontia, anatomy, histology, surgery, pathology, materia medica, therapeutics, physiology, bacteri-

ology, anesthesia, chemistry and metallurgy, and will be held at Civil Service Rooms, State House, from Thursday, June 26, at 9:30 a. m., until Friday p. m., June 27.

All applications, together with the fee of twenty dollars, must be filed with the Secretary of the Board on or before June 18, as no application for this meeting will be received after that date.

Every candidate for examination must be twenty-one years of age.

Application blanks may be obtained from the Secretary.

Candidates who have taken an examination and failed, and desire to come before the Board again at this meeting, are not required to fill out a second application blank, but must notify the Secretary as above in order to be examined. The fee for third and subsequent examinations is \$5.00.

G. E. MITCHELL, D.D.S, Secretary,
25 Merrimack Street, Haverhill, Mass.

ILLINOIS STATE DENTAL SOCIETY MEETING, MAY 13-15, 1902,
SPRINGFIELD.

Program.—1. Annual Address, by the President, Dr. M. L. Hanaford, Rockford. 2. Report of Committee on Dental Science and Literature, Dr. G. V. Black, Chicago. 3. Report of Committee on Dental Art and Invention, Dr. Hart J. Goslee, Chicago. 4. "Dental Nomenclature," Dr. G. Walter Dittmar, Chicago. Discussion opened by Dr. A. W. Harlan, Chicago. 5. "Professional Ethics vs. Patents," Dr. Charles E. Bentley, Chicago. Discussion opened by Dr. C. N. Johnson. 6. "Some of Our Predecessors," Dr. A. H. Fuller, St. Louis. Illustrated with electric stereopticon. Discussion opened by Dr. G. V. Black. 7. "An Ideal Material for Filling Root Canals of Teeth," Dr. Rudolph Beck, Chicago. Discussion opened by Dr. Hart J. Goslee. 8. "Good Fellowship," Dr. C. R. Taylor, Streator. Discussion opened by Dr. Edmund Noyes, Chicago. 9. "Preliminary Dental Education," Dr. M. R. Harned, Rockford. Discussion opened by Dr. A. H. Peck, Chicago. 10. "Conditions Modifying Extension for Prevention," John E. Nyman, Chicago. Discussion opened by Dr. E. H. Allen, Freeport. 11. "Use of Matrix in Compound Approximal Gold Fillings," Dr. Elliott R. Carpenter, Chicago. Discussion opened by Dr. Don M. Gallie, Chicago. 12. "The First Permanent Molar," Dr. J. N. Crouse, Chicago. Discussion opened by Dr. Truman W. Brophy, Chicago. 13. "Dental Conditions in the Philippines," Dr. Louis Ottogy, Manila.

Clinics. Wednesday Morning, May 14.—1. Dr. Charles J. Sowle, Rockford, Ill. Gold filling, using matrix and separating rubber. 2. Dr. Hugh McMillan, Roseville, Ill. Some convenient things about an office. 3. Dr. George W. Cook, Chicago. Individual treatment of pyorrhea alveolaris. 4. Dr. M. R. Harned, Rockford, Ill. Cavities in artificial teeth. 5. Dr. Joseph S. Bridges, Chicago. Porcelain inlay. 6. Dr. J. J. Reed, Rockford, Ill. Cement anchorage for gold filling. 7. Dr. W. T. Reeves, Chicago. Porcelain inlay. 8. Dr. Frank S. Trickey, Freeport, Ill. Gold filling. 9. Dr. Hart J. Goslee, Chicago. Construction of saddle for porcelain bridge

and carving cusps for crown and bridge work. 10. Dr. R. J. Cruise, Chicago. Extraction and supplantation a cure for chronic alveolar abscess and pyorrhea alveolaris. 11. Dr. B. J. Cigrand, Chicago. A gnathomer mimic, showing the philosophy of mastication. 12. Dr. K. B. Davis, Springfield. Crown and bridge work. 13. Dr. L. O. Green, Chicago. Banded Logan crown. 14. Dr. L. S. Tenney, Chicago. Gold and platinum restoration, using engine mallet. 15. Dr. Chas. P. Pruyn, Chicago. Subject to be announced. 16. Dr. C. B. Sawyer, Jacksonville, Ill. Gold filling in labio-cervical cavity, using a clamp of aluminum, own design. 17. Dr. Elliott R. Carpenter, Chicago. The extirpation of the dental pulp, employing saturated solution of cocain.

Thursday Morning, May 15.—18. Dr. E. F. Hazell, Springfield. Gold filling. 19. Dr. J. E. Hinkins, Chicago. Subject to be announced. 20. Dr. Winthrop Girling, Chicago. Porcelain crown without facings and porcelain shading. 21. Dr. Calvin S. Case, Chicago. A new form of artificial palate. 22. Dr. Geo. B. Perry, Chicago. A method of mounting and trueing wheels for dental engines and lathes. 23. Dr. J. O. Brown, Chicago. Gold Filling, Watt's crystal gold. 24. Dr. Hugo Franz, Chicago. Surgical treatment of chronic alveolar abscess. 25. Dr. Edmund Noyes, Chicago. Root filling. 26. Dr. R. C. Brophy, Chicago. Porcelain work, baking with gas and gasoline. 27. Dr. Chas. F. Bryant, Chicago. Continuous gum dentures. 28. Dr. Sydney Knowles, Chicago. Porcelain inlay, Wassall's method. 29. Dr. Frederick B. Noyes, Chicago. Amalgam tests. 30. Dr. G. M. Brunson, Joliet, Ill. A method of anchoring screw posts in frail roots and badly broken down bicuspid and molars. 31. Dr. Geo. D. Sitherwood, Bloomington. Treating and wiring loose teeth. 32. Dr. Grafton Munroe, Springfield. Taking impressions or "something prosthetic." 33. Dr. Frank H. Skinner, Chicago. Preparation of sensitive cavities, using nitrous oxid with Hurd's inhaler. Gold filling, using noncohesive gold and tin to prevent thermal changes, finishing filling with cohesive foil. 34. Dr. Geo. Appel, Chicago. Disto-occlusal gold filling, using matrix with gold pads for protecting the enamel and gaining good adaptation of gold to the cavity margins.

MISSOURI STATE DENTAL ASSOCIATION.

The thirty-eighth annual session of the Missouri State Dental Association will convene at Jefferson City, May 21-23, 1902. The literary program will be held in the Legislative Hall, and the clinics, beginning at 10 A. M. the first day, will be held at the State Penitentiary, where an abundance of clinical material can be had. Railroad and hotel rates have been secured. A cordial invitation is extended to the profession to attend. The following is a partial program:

Addresses and Essays.—1. Burton Lee Thorpe, St. Louis. President's Annual Address. 2. Wm. Everett Griswold, New York. "The Griswold System of Removable Bridge Work." 3. Frederick Brown Moorhead, Chicago. "Alveolar Abscess, Its Sequel and Surgical Treatment." 4. D. R. Stubblefield, Nashville, Tenn. "Metallurgy." 5. J. D. Patterson, Kansas City.

"Etiology of Dental Disease." 6. D. F. Luckey, D.D.S., Missouri State Board of Agriculture, Columbia. "Comparative Anatomy of the Teeth." 7. J. Robert Megraw, Fayette. "Dental Prescriptions." 8. Millard Lewis Lipscomb, A.M., Missouri State University, Columbia. "The Practical Application of Electricity in Surgery and Kindred Subjects." 9. S. C. A. Rubey, Clinton. "Some State Board Questions and the Answers they Receive." 10. James W. Hull, Kansas City. "Conservatism in Dentistry." 11. Herman Prinz, St. Louis. "Some of the Newer Dental Remedies." 12. Charles Gilbert Chaddock, M.D., St. Louis. "Neurology." 13. W. W. Flora, Carthage. "Use and Abuse of Crown and Bridgework." 14. Otto J. Fruth, St. Louis. Report of Committee on New Inventions and Appliances. 15. H. S. Vaughn, Kansas City, "Orthodontia."

Clinics—M. C. Marshall, St. Louis, Supervisor. 1. Edward G. Snodgrass, Keokuk. Step filling, using Watt's crystal gold. 2. Frederick Brown Moorhead, Chicago. Surgical treatment of alveolar abscess. 3. Wm. Everett, Griswold, New York. The Griswold system of removable bridgework, constructing a practical case in the mouth. 4. R. C. Brophy, Chicago. Porcelain work, baking with gasoline and gas furnaces. 5. B. Q. Stevens, Hannibal. Table clinic, method of root-filling with gutta-percha and wood points, and taking impressions of enlarged or undeveloped root canals. 6. A. J. Prosser, St. Louis. Methods of filling with cohesive and non-cohesive gold and tin foils. 7. F. M. Fulkerson, Sedalia. Immediate and painless pulp extirpation in anterior teeth. 8. R. H. Mace, St. Louis. The use of gold inlays in deciduous and frail teeth. 9. Herbert P. Neeser, Canton, Edward G. Snodgrass, Keokuk. Mounting Logan crown with cap. 10. F. B. Jahr, Kansas City. Preparing cavities in porcelain teeth. 11. John G. Harper, St. Louis. Table clinic, "Some odds and ends." 12. J. Robert Megraw, Fayette. Treatment of alveolar abscess with fistulous opening and immediate root filling. 13. M. R. Windhorst, St. Louis. Gold fillings. 14. F. H. Achelpohl, St. Charles. The use of Teague's cavity disk cap. 15. J. H. Kennerly, St. Louis. Taking impressions of the mouth. 16. J. Denzil Bowles, Tipton. New treatment for epules, tumors, oral ulcers, etc. 17. D. O. M. LeCron, St. Louis. Porcelain inlays. 18. A. J. Prosser, St. Louis. Gold inlays swaged and burnished. 19. W. F. A. Schultz, St. Louis. Operation for necrosis. 20. R. R. Vaughn, St. Louis. Demonstrating use of cement. 21. Geo. H. Mathae, St. Louis. Extracting with nitrous oxid gas, demonstrating new universal lower forcep. 22. A. F. Strange, St. Louis. Obturator for cleft palate. 23. R. N. LeCron, St. Louis. Construction of porcelain bridge. 24. V. H. Frederick, St. Louis. Bridge work with removable facings. 25. J. S. Letord, Kansas City. Demonstrating a new rheostat for 110 volt alternating current. 26. C. D. Lukens, St. Louis, "Orthodontia." 27. E. F. Fletcher, St. Louis. Something. 28. James W. Hull, Kansas City. Immediate and painless checking of hemorrhage. 29. Geo. H. Gibson, St. Louis. Cleansing a set of teeth. 30. Orme H. Manhard, St. Louis. A method of retaining loose teeth with splints. 31. H. S. Vaughn, Kansas City. Demonstrating the Jackson crib system for irregularities. 32. W. L. Reed, Mexico. Articulated natural teeth to demonstrate

cavity preparation. 33. Henry B. Purl, Kirkville. Black's method of step cavity preparation. 34. W. W. Flora, Carthage. Richmond Crown. 35. Herman Prinz, St. Louis. Demonstrations of some of the newer dental remedies. 36. L. A. Young, St. Louis. Adjusting rubber dam and filling root canals, demonstrating new rubber-dam holder and aseptic broaches. 37. J. S. Letord, Kansas City. Fillings with Vernon's gold and Eoff's gold and platinum. 38. James F. Austin, St. Louis. Cavity preparation for alloy fillings, using "Fellowship" alloy

GEO. W. TAINTER,

Chairman, Jefferson City.

C. D. LUKENS, St. Louis, } *Executive Committee.*
J. C. PASQUETH, Mexico. }

News Summary.

D. D. KIMMELL, a dentist at Bement, Ill., died April 2, 1902.

E. D. LORD, 77 years old, a dentist at Bellevue, O., died March 23, 1902.

E. M. ROFFEE, 64 years old, a dentist at Clyde, N. Y., died March 27, 1902.

M. L. SPEARS, one of the oldest dentists of Augusta, Ga., died Mar. 13, 1902.

PAINFUL IN THE EXTREME.—The man with the gout says that mischief is afoot.

G. R. JOHNSON, a dentist at Hastings, Mich., died March 31, 1902, of measles.

R. G. RAGAN, a dentist at Anniston, Ala., died March 11, 1902, from pneumonia.

A. L. SIDENER, a dentist at Mechanicsburg, O., died March 22, 1902, from heart disease.

CHAS. E. BARTLETT, 85 years old, a dentist at Battle Creek, Mich., died April 15, 1902.

A. J. JACKSON, 78 years old, a retired dentist at Drexel, Mo., died March 11, 1901.

J. J. LARKIN, 31 years of age, a dentist at La Salle, Ill., died April 1, 1902, from peritonitis.

S. TOWNSEND, 65 years old, a dentist at Oakland, Md., died March 24, 1902, from consumption.

M. M. CRISSELLE, 80 years old, a former dentist of Minneapolis, died March 18, 1902, of pneumonia.

EDWARD G. HORNE, 74 years old, a retired dentist at Philadelphia, died of Bright's disease March 24, 1902.

G. V. PICKERING 84 years old, a dentist at Laconia, N. H., died April 9, 1902, after sixty years of practice.

DISTRICT OF COLUMBIA EXAMINING BOARD.—The District Commissioners have appointed W. E. Dieffenderfer of Washington, D. C., to fill the unexpired term of the late Dr. Henry B. Noble.

M. S. BORNEMAN, a dentist at Norristown, Pa., 45 years old, died suddenly March 21, 1902, from heart disease.

A. J. BACON, a dentist, formerly of New Mexico, but now of Denver, is reported dying from consumption.

R. H. GUNNELL, 66 years of age, a dentist at Washington, D. C., died April 5, 1902, from pleuro-pneumonia.

JOHN W. BLAIR, a dentist, formerly of Winchester, O., died at Hartford City, April 5, 1902, from lung trouble.

J. K. GAMBLE, 55 years of age, a dentist at Coffeyville, Kan., died suddenly March 17, 1902, from heart failure.

WALKING FOR HIS HEALTH.—First pedestrian: "Out walking for your health?" Second: "Yes, I am going for the doctor."

F. N. TAYLOR, 50 years old, a dental salesman at Detroit, Mich., and formerly of Chicago, committed suicide March 14, 1902.

MARRIED.—C. A. Bachman, Emaus, Pa., March 30; N. L. Bolles, Marceline, Kan., April 1; Chas. Lewis, Des Moines, Ia., Feb. 25.

STRYCHNIN ANTIDOTE.—Lard given internally is an efficient antidote to strychnin, and it can be found in every household.—*Exchange*.

INSOMNIA.—Says the Scientist, "The way to sleep is to think of nothing." This is a mistake. The way to sleep is to think it is time to get up.

J. A. BREEDING, of Glasgow, Ky., one of the prominent dentists in that section, died April 5, 1902, of pleuro-pneumonia, after 25 years of practice.

E. H. REID, 34 years old, a dentist at Eatonton, Ga., died April 1, 1902, from heart failure. He was dentist to the State Sanitarium at Milledgeville, Ga.

GEORGIA EXAMINING BOARD.—April 8 the Governor appointed Dr. N. A. Williams of Valdosta as a member of the State Board of Dental Examiners, to succeed Dr. E. H. Reid, deceased.

SCATTERED.—Doctor: "Well, did that dose I told you to take scatter your cold?" Patient: "It certainly did. When I saw you last the cold was only in my throat, but now it is scattered all over me."

MASSACHUSETTS DENTAL EXAMINATIONS.—Eighty-three candidates presented before the Massachusetts Dental Board of Registration in Dentistry last month. Forty-three passed and forty were rejected.

PEORIA (ILL.) DENTAL SOCIETY held its annual banquet and meeting on March 31, and elected the following officers: Pres., W. F. Whalen; V. P., R. C. Willett; Secy., L. R. Snowden; Treas., A. J. Myers.

VALENTINE.—A man was recently operated on for appendicitis, but the surgeons discovered that their diagnosis was wrong, so they sent him home on Valentine's Day with a note reading "Opened by mistake."

SHEDDING OF TEETH AS A "TABETIC ARTHROPATHY."—In locomotor ataxia the teeth may fall out gradually and painlessly. The joints, especially the knees and elbows, sometimes enlarge suddenly, as a rule without pain, constituting the so-called "tabetic arthropathies" of Charcot.—*Sajous' Annual*.

PHYSICAL IMPOSSIBILITY.—Mike (to the chemist): "The dochter said, 'take wan of these pills three times a day.' I tuk wan of thim wanst, but the man doesn't live that kin take wan of thim three times."

ASHEVILLE, (N. C.) DENTAL SOCIETY.—A society with this name was organized March 11, 1902, and the following officers were elected: Pres., J. W. Foreman; V. P., J. F. Ramsey; Secy. and Treas., F. L. Hunt.

CENTRAL MICHIGAN DENTAL ASSOCIATION.—This society was organized April 3, at Ionia, and the following officers were elected: Pres., J. J. Green; V. P., J. H. Armstrong; Sec'y, P. L. Campbell; Treas., C. E. Whitmore.

ELECTRIC TREATMENT.—"Electricity in the atmosphere affects your system," said the scientific physician. "Yes," said the patient, who had paid \$10 for two visits, "I agree with you; there are times when one feels overcharged."

SOUTHEASTERN MASSACHUSETTS DENTAL ASSOCIATION held its annual meeting at Fall River, Mass., April 9, and elected the following officers: Secy., F. O. Kidd; Treas., A. G. Wyman; Ex. Com., T. P. Sullivan, O. J. Egan, W. W. Marvell; Councilor, A. P. Rogers.

FIFTH DISTRICT DENTAL SOCIETY OF NEW YORK STATE held its fourth annual meeting at Syracuse April 9, and elected the following officers: Pres., C. H. Barnes; V. P., S. Slocum; Secy., A. D. Wells; Treas., I. C. Curtis; Correspondent, J. H. Dower; Librarian, F. R. Adams.

SINGULAR FATALITY.—A little girl twelve years old met with a singular death at Brighton, England, recently. In biting an apple she broke a tooth, a splinter from which penetrated near the throat, setting up such profuse hemorrhage that the child succumbed.—*Brit. Jour. Dent. Sci.*

HEMATURIA AND GINGIVAL HEMORRHAGE TREATED WITH TURPENTINE.—In a bad case of hematuria and bleeding from the gums, the latter were painted with turpentine and the oil given internally, with the result that blood ceased to flow from the gums and no longer appeared in the urine.—*Ex.*

BAD EFFECTS OF TESTIMONY.—One of the funniest dental ads we have seen is in a Nebraska newspaper. The dentist states, "I positively extract teeth without pain, as dozens of happy persons will testify, and no bad effects afterwards." We should think bad effects would follow such testimony.

RUBBER AND ALUMINUM PLATES.—The rubber is dissolved in chloroform, and aluminum powder added until the solution takes a creamy consistence. After removing the wax from the flask the model is given two or three coatings of this solution and the flask is closed in the ordinary way.—*Archiv fur Zahnheilkunde.*

APPRECIATIVE.—"Dec. 30, 1901. Enclosed find post-office order for my subscription to the DENTAL DIGEST for 1901-2. Pardon my neglect in not attending to this matter before. You and your journal have done enough for the profession that we should at least keep our subscriptions paid up. L. V. W. Du Puis, Mayville, N. Dak." This is indeed refreshing. Would that all our subscribers felt as he does.

GAS AT REGULAR RATES.—President of the Getyourcoyne Gas Company—"Great Scott, Doctor, you don't mean to say you are going to charge me \$3 for pulling one tooth." Dentist—"Yes \$1 for pulling the tooth; the balance for gas furnished at your regular rates."

WATER OVERFLOW CAUSES DAMAGE SUIT.—A dentist in Michigan last month carelessly left his office for the night without shutting off the running water. It overflowed and soaked through the ceiling into the silk stock of a dry-goods store on the floor beneath. A \$1,000 damage suit is in prospect.

SMALLPOX INSURANCE.—Lloyd's, London, issues policies against smallpox since the recent epidemic in London. The policies are issued for twelve months for \$250 and upwards. The present premium rate is $\frac{1}{3}\%$ for those recently vaccinated; $\frac{3}{4}\%$ for Christian Scientists and others who do not believe in vaccination.

VERSATILE KANSAS.—After all Kansas is the place for live news. A doctor out there named Love was accused of having loved and married too many times. The officials were not sure of the evidence, but did not want the doctor to get away, so they jailed him for unlicensed practice while verifying the bigamy charge.

SEVENTH DISTRICT DENTAL SOCIETY closed its annual meeting at Rochester April 9, and elected the following officers: Pres., F. W. Proseus; V. P., F. Messerschmitt; Rec. Secy., C. F. Bunbury; Cor. Secy., C. C. Bachman; Treas., Le Roy Requa. The next meeting will be held at Buffalo the second Tuesday in October, 1902.

PAINLESS REMOVAL OF TOOTH-ENAMEL.—Removing the enamel should not cause any pain worth mentioning. By placing a short piece of rubber tubing which fits tightly around the tooth, and leaving on over night so that the gum may be pressed back, the enamel may be removed quite painlessly without even causing the gums to bleed.—*Dominion Journal*.

DARK JOINTS.—Dr. W. W. France says, in *Items of Interest*, that he packs the joints of his vulcanite plates with about a quarter of a sheet of gold foil, and that he has never had a dark joint since he commenced its use. Where the space is small one thickness of the gold pressed in with the edge of a penknife blade is quite sufficient. Tin foil will do equally well.

SIMILIA SIMILIBUS CURANTUR.—"I think," said the vegetarian, "that when a man lives on beef he becomes something like an ox; if he eats mutton, he looks sheepish, and if he feeds on pork, he grows swinish." "If that is the case," replied the man who liked a meat diet, "when an individual lives on nothing but vegetables he is likely to become pretty small potatoes."

HEMORRHAGE.—Calcium chlorid, in doses of 8 to 16 grains every two to four hours, should be tried in all forms of persistent hemorrhage, especially hemoptysis, hematuria, and intestinal hemorrhage of typhoid fever, for this salt increases the coagulability of the blood. It should be remembered, however, that this drug should not be used more than three days continuously, for its prolonged use decreases the coagulability of the blood.—*Med. Brief*.

ASPHYXIA INCIPIENT.—Always suspect some foreign body or substance in the air passages, and if possible immediately remove it. Arrange for access of fresh air; raise head and upper part of body; remove tight dress, collars, corsets, etc. Irritation to the skin should be produced by sinapisms; stimulate respiratory center by electricity if time allows.—*Merck's Archives*.

DAMAGE SUITS.—A woman in Detroit is suing her dentist for \$300 damages, claiming that he broke one of her teeth. He had previously sued her for \$27 for services rendered, so hers was probably merely a retaliatory suit. A woman in St. Louis is suing a firm of two dentists for \$4,000 damages, claiming that they maliciously extracted some teeth, and broke one of them off close to the gum.

ITINERANT DENTISTRY DANGEROUS.—A man in New Haven, Conn., about ten months ago allowed an itinerant fakir to pull a tooth. Soon after he was unable to open his jaw, and a consultation of physicians discovered that when the tooth was extracted the jaw had been broken. Necrosis set in, and for ten months the man has been dangerously ill. Hopes are now entertained for his recovery.

LITTLE BOBBIE had longed earnestly and long for a baby brother and a pair of white rabbits. The answer to both wishes came on the same morning, but it was not quite satisfactory, for there were two baby brothers and only one rabbit. Bobbie was greatly disgusted at the mistake. The next day his father found the following notice tacked to the gate-post: "For sail—One nice fat baby or i will swap him for a white Rab-Bet."

BLOODLESS SURGERY.—A Japanese physician, Dr. Jokichi Takamino, claims to have discovered the possibility of bloodless surgery through the medium of adrenalin. By the local application of adrenalin in solution operations may be performed, it is said, on the nose, ear and eye without the loss of a drop of blood. This medicament seems the most expensive drug known. It costs \$1 a grain, \$7,000 a pound.—*Pearson's Weekly*.

SUPPURATIVE PAROTITIS.—Dr. Francis R. Packard reports (*Jour. Am. Med. Assn.*) two cases of suppuration of the parotid gland, with pus in the external auditory canal, a condition which he believes must be frequently overlooked by the general practitioner, and by others who have not made a special study of the subject, the pus being regarded as coming from the middle ear instead of reaching the parts, as it does, by infiltration through the incisura Santorini.

BRUSH IN USE ELSEWHERE.—According to the Taylorville, Ill. *Breeze*, a dentist in that section recently had a very pretty young woman for a patient, but her teeth were badly neglected. As she was leaving the office he told her she must take better care of her teeth, saying, "You should use your brush on them diligently after each meal." "Well," said the patient, "I used to brush them sometimes, but when brother Tom joined the army he took our tooth brush with him."

BACKING TEETH IN CROWNS OR DUMMIES.—In making crowns or dummies it is better to back the tooth first, before any grinding is done, for the tooth

is then stronger and the pins may be well riveted to the backing. If the backing is put on after the tooth has been ground, and the pins have been encroached on by the grinding wheel, a part of the tooth may be fractured when riveting the backing. This would not be the case if the backing were put on first.—T. F. Chupein, *Dental Off. Lab.*

FATAL EFFECTS OF CHLOROFORM FOLLOWING ATTACKS OF INFLUENZA.—William Caldwell draws attention to the importance of obtaining a history of recent influenza before the administration of anesthetics, especially of chloroform; there have been many deaths from chloroform administration, and especially during influenza epidemics; very suspicious cases have occurred which were clearly explained by the depressed condition of the nervous system and of the heart.—*Dental World.*

SEALING ARSENIC IN A TOOTH.—By Dr. A. L. Blackburn, Curwensville, Pa. In applying arsenic in any form to devitalize a pulp there is always some liability of its escaping by capillary attraction. This may be prevented by cutting a small disc of medium stiff paper, coating one side lightly with sandarac varnish and applying coated side directly on the drug. By carefully smoothing the edges it effectually seals in the arsenic and at the same time prevents to a great degree the possibility of pressure on the pulp while introducing the gutta-percha.—*Ohio Jour.*

SETTLED THE BILL.—The following story is told on Dr. M. B. Dennis of Port Huron, Mich. Some time ago a young woman called on him and had a bridge made. Payment was deferred and the patient married. After repeatedly failing to collect the amount, Dr. Dennis wrote the young woman that if she would call at his office he would remove the bridge, as he did not think she would care to wear anything that belonged to some one else. She thereupon became very indignant and had the bridge removed by another dentist and sent it to Dr. Dennis. Now he is wondering what to do.

TOXIC ACTION OF COCAIN.—Dr. Maurel of Toulouse discussed before the Society de Biologie the toxic properties of cocain, and said that the danger accompanying its administration was due to its penetration into the veins, Cocain, he says, changes the shape of the leucocytes from round to spherical. In man the leucocytes are weaker than in animals, and it takes 0.005 milligrams of cocain per kilogram of blood to bring about the change referred to. When the leucocytes become spherical they cannot pass through the capillaries of the lungs, and so form emboli, which cause death.—*Cosmos.*

ILLEGAL PRACTITIONERS.—Last month four dentists in northern Minnesota were indicted for practicing without a license. One at Whatcom, Wash., on April 1 was fined \$50 and committed to jail for the same offense. On April 4 a man at Buffalo was arrested for being minus a license. On March 18 warrants were sworn out for the arrest of five dentists in Kansas City who were practicing dentistry illegally. On April 4 a dentist at Sioux Falls, S. Dak., was arrested for failure to take out an annual license as required by the state law. The case is a test one, as many dentists claim that the annual license fee is unconstitutional.

CANCER OF THE BRAIN.—R. H. M. Dawbarn, the eminent surgeon of New York, has been awarded the Samuel D. Gross prize of \$1,000 by the Philadelphia Academy of Surgery, for success in treating inoperable cases of cancer of the brain. For the last six or seven years Dr. Dawbarn has tied both carotid arteries, thereby lessening the blood supply to the brain and head, with the most satisfactory results in malignant diseases from the pharynx up to the brain. Many cases operated on several years ago are apparently much improved. Our readers will remember that some time ago Dr. Dawbarn described this operation in the *DIGEST*.

FATALITIES.—A man at Wilkesbarre, Pa., died last month while under the influence of ether, which was administered prior to the extraction of three teeth. A young woman in South Dakota last month died from blood-poisoning caused by an ulcerated tooth. A man in Pennsylvania on April 8 died suddenly a few minutes after having three teeth extracted. Death was caused by the bursting of a blood vessel. A woman in Los Angeles, Cal., died last month while under the influence of chloroform which was administered for the extraction of several teeth. A man in Maine died on April 3 from hemorrhage following extraction of a tooth.

THIS IS THE LIMIT.—"Dr. H. J. Sullivan, Wooster, O. member of the Board of Pension Examiners of Wayne Co.," is responsible for the following: Six months before his little daughter was born her mother had two front teeth filled with gold, and now that the child has out her front teeth "it is discovered that two of them have all the appearance of being filled with gold. Dr. Sullivan says that he has cut into the bone and has found that it is apparently of a yellow substance all through. He does not say what seems to be gold is really so, but it looks like it." The gentleman stated to a reporter of the *Pittsburg Dispatch* that he never heard of a similar birth-mark. Neither did we.

ACCIDENTS.—J. B. Moore, a dentist at Lexington, Ky., was seriously injured and burned March 14, 1902, by an explosion of gas in his office, owing to a leak in the meter. O. B. Richards, a dentist of Pittston, Pa., was badly burned by an explosion of gasoline in his office on March 31. His wife, standing near by, was seriously injured. A cylinder of nitrous oxid gas exploded in the office of Dr. M. S. Campbell at Lynn, Mass., on March 29, and did about \$200 damage. A dentist at Springfield, Mass., while making nitrous oxid gas, was badly burned by an explosion of same. A vulcanizer in the office of a dentist in South Dakota exploded one day last month and caused \$150 damages to the room and contents.

ROBBERIES.—On April 10 a dentist at Keokuk, Ia., lost \$12 worth of gold. March 12 a dentist at Carthage, Mo., lost \$80 in gold plate, etc. April 10 a dentist at Quincy, Ill., lost \$25 worth of stuff. March 18 a dentist at Carthage, Mo., lost gold and some dental curiosities, total value, \$140. The same man who robbed a dentist at Bakersfield, Cal. of \$250 worth of stuff on March 9 visited two other offices in that town on the same night, and picked up about \$50 worth of gold and other things. March 14 three dentists at Sacramento Cal., lost gold aggregating over \$100 in value. Other robberies are re-

ported from Fresno, San Luis Obispo, Merced, all of California, and from other cities and states. There seems to be an epidemic of this sort of thing, and we would urge our subscribers to be on their guard.

RESUSCITATION.—M. Ogata and J. Futagawa recommend what they call the stroke resuscitation for asphyxia, and the shaking resuscitation for anesthesia. The former consists of a light stroke over the antero-inferior margin of the chest with the palmar side of the extended fingers, repeated from ten to fifteen times a minute. The respiration is stimulated, the heart's action excited, and the circulation accelerated. Shaking resuscitation is performed as follows: The feet of the child are grasped by one hand and the shoulders held by the other; the trunk is gradually raised, and the head brought near the feet, the body being strongly flexed at the hip-joint, while the chest is pressed with the hand. The head is then raised, the trunk is gradually extended, and the child returned to its former extended position. Thus expiration and inspiration are secured. Should a repetition of this procedure be fruitless, after a moment's pause in the second posture, the hand on the back is suddenly removed, the upper part of the child's body being thus thrown down and shaken. This should be done eight or ten times a minute, and a warm bath given after eight or ten shakings. The authors claim that this method of resuscitation surpasses all others —*Medical Record*.



DEBT NOT PAID.—"What a debt we owe to medical science," he said, as he put down the paper.

"Good heavens," she exclaimed, "Haven't you paid that dentist's bill yet?"

PRECAUTIONS NECESSARY WITH HYDROGEN DIOXID.—Two professors at Lyons, France, have recently called attention to the ready absorbability of hydrogen dioxid and the consequent danger of fatal gaseous embolism from bubbles of oxygen forming in the blood after absorption, when it is applied to an open wound or to detach an adherent dressing. In contact with the blood, as with pus, the effervescence continues. The oxygen is disposed of by the oxyhemoglobin in the blood if the amount is small, and no harm results. Inflamed tissues are peculiarly active in decomposing the dioxid,

and absorption is always slow and gradual in all cases. Crolas advises rendering the dioxid alkaline by adding a saturated solution of sodium borate, a drop at a time, until litmus paper, first reddened by the dioxid, regains its blue color. Even aside from the fear of gaseous embolism the dioxid should always be neutralized, as it is liable to contain more or less sulfuric, phosphoric, or other acids. It should never be used stronger than eight to ten volumes, and always fractioned and in moderate amounts. With these precautions there need be no fear of the slightest evil effects from its use.—*Pacific Medical Journal*.

EXAMINATION OF CHILDREN'S MOUTHS.—Jacob Sobel (*Med. News*) says that the ideal position is to have the back of the child rest against the mother's right breast, its head against her shoulder, her left hand holding the child's knees, her right its hands. The left index finger and thumb of the physician are placed on the infant's temporal region and with the palm the head is held firmly against the mother's shoulder. For illumination direct daylight thrown into the mouth answers every purpose, but shadows must be avoided. Where good light is not available the forehead reflector is used with artificial light. A good tongue depressor is essential. He uses a modification of Chapin's, notched at the end like the broad end of director. This notch is used to engage the frenum in snipping "tongue tie." A systematic examination of the mouth should be conducted as follows: The depressor is inserted at the left angle of the mouth, the cheek and lips everted, then at the right angle, and the cheek and lips everted. The spatula then catches the frenum and the under surface of the tongue, the frenum and the floor of the mouth are observed; the spatula being removed the upper surface of the tongue is viewed; the latter is then firmly depressed and the hard and soft palates, fauces, tonsils, pharynx, and, in the vast majority of cases, epiglottis, are observed.

CURIOUS SYMPTOMS FOLLOWING TOOTH-EXTRACTION.—A patient aged thirty years presented himself at the Royal Dental Hospital in London to have a tooth removed which had been fractured in the country a week previously. During the whole week he had suffered great pain, which had ceased only on the morning of the day he came to the hospital. The roots of the lower left first molar were removed without any special difficulty, the patient, however, complaining of excessive pain immediately after the operation. This was speedily relieved by the use of hot water, and the man then seemed quite well. Within from three to five minutes after the extraction he suddenly complained of severe "pins and needles" in the legs, which later affected his arms. The patient assumed a very bad color, and on being placed in a reclining position asked to be allowed to sit up. The whole body became rigid, with strong contraction of the muscles of the forearm and the flexors of the fingers, and adduction of the thumbs. Respirations were hurried, with accompanying stridor; with pulse quick and feeble. The patient was conscious all the time and was able, though with difficulty, to answer questions. The teeth were clenched, the pupils of the eyes widely dilated. Both extremities became quite cold, and had a moist, clammy feeling. He was vigorously rubbed for about a quarter of an hour and recovered slowly until he was able to warm himself by swinging his arms, and he eventually went away apparently not much the worse.—W. Collier Pridham, *Jour. Brit. Dent. Assn.*

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